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Cleanings in Bee Culture



VOL. XLII. JUNE 1, 1914, NO. 11.

The Old Original 1853 Edition of Langstroth Reprinted Now Ready for Distribution

One of the Most Charmingly Written and Entertaining Books that was Ever Published

It so stirred A. I. Root in the early days that he wrote: "What a gold mine that book seemed to me! . . . Never was romance so enticing—not even Robinson Crusoe; and, best of all, right at my own home I could live out and verify all the wonderful things told therein."

Here is what Others say:

This will preserve the original for future generations.
G. M. DOOLITTLE.

Marietta, N. Y., April 16.

I am much pleased with the reprint which has come to hand.

Amherst, Mass., April 15.

B. N. GATES.

It is very interesting, not only from a sentimental but from a practical standpoint.

Guelph, Can., April 21.

MORLEY PETTIT.

The dear old man was one of God's very own; and to have this reminder of him on my book-shelf will give me much pleasure.

Sacramento, Cal., April 18.

A. J. COOK,

State Commissioner of Horticulture.

It seems good to read again this charming work. It must ever remain to the American beekeeper a classic, both instructive and fascinating.

Middlebury, Vt., April 15.

J. E. CRANE.

It is well to have Langstroth reprinted; and if all would read it, many would be saved from going over well-thrashed straw. I have several of the early editions, and am glad to add this to them.

ARTHUR C. MILLER.

Providence, R. I., April 20.

I have a copy of the reprint of the 1853 Langstroth. I have long admired the writings of Langstroth, and had read his original edition with great interest. It is especially interesting in that he discusses some of the points that are annually "discovered" by others who are unfamiliar with the literature on bees. I feel that it will benefit American beekeepers to become familiar with this book, and trust that it will have a wide distribution. The book is a classic, and should be known to all good beekeepers.

E. F. PHILLIPS.

Washington, D. C., April 16.

I am much pleased to get the reprint of Langstroth, and I thank you heartily for the same. I have not yet had a chance to look it through, but did look into it enough to recognize the dear old book. It was the very first thing I ever read on bees, and I read it through the first night—the night of the day I captured my first swarm. At least I read it till I dared not sit up any longer lest my father arrive on the scene with a slipper. I did not dare look at the clock when I finally did go to bed. Yes, I got the fever bad.

ALLEN LATHAM.

Norwichtown, Ct., April 30.

"Entered according to Act of Congress in the year 1853, by L. L. Langstroth." Entered at the same time, without any act of Congress, by means of the book containing the aforesaid legend and the hive which accompanied it, a flood of light upon the dense darkness that had from the foundation of the world enshrouded the secret and mysterious doings of the little busy bee within its closed domicil.

That divides the history of beekeeping into two distinct periods—the long ages before 1853, and the little span of threescore years since then. The rapidly diminishing few who have lived in both periods are in best position to appreciate the immense difference in the two. As we scan again the pages of the old—and ever new—book, "Langstroth on the Hive and the Honey-bee," how memories arise of "the grand old man" with the inventive brain and loving heart, and with the gentle voice we loved so well to hear! What a blessing that the same man who could make such a revolutionary invention could also write so beautifully! Whatever other books the beekeeper may or may not have, he is likely always to cherish the one classic from the graceful pen of the beloved Langstroth.

Marengo, Ill.

C. C. MILLER.

While some of our readers may, perhaps, feel that this work would be out of date, the fact is,

FATHER LANGSTROTH WAS 60 YEARS AHEAD OF HIS TIME.

So much so that he revolutionized beekeeping throughout the world.

The book that helped to bring about this remarkable revolution is well worth reading to-day. It is full of valuable tricks of the trade.

PRICE: 400 pages, bound in cloth, \$1.00 postpaid; clubbed with GLEANINGS, \$1.50; with A B C and X Y Z of Bee Culture, \$2.50; with Dadant's Revised Langstroth, \$1.85.

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SEASONABLE "falcon" Bee Supplies

HIVES—What better chance have you to get your "falcon" hives nailed than just now? Now's the time to place your order for some "falcon" hives. Make use of your spare time by nailing your hives and frames.

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Central States, The Fred W. Muth Co., 204 Walnut St., Cincinnati, Ohio.
Western States, C. C. Clemons Bee Supply Co., 123 Grand Ave., Kansas City, Mo.
Southern States, J. J. Wilder, Cordele, Ga., and many others here and abroad.

W. T. Falconer Manufacturing Company, Falconer, New York

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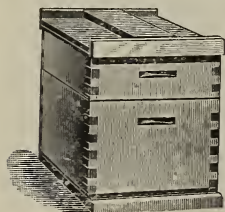
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Our 1914 Catalog of Beekeepers' Supplies and Introduction to Beekeeping is now being sent to those on our mailing-list. If you have not already received or do not receive it soon, a postal-card request will insure your receiving it without delay.

Prospects for the coming season are unusually bright, and both prudence and economy would suggest the early placing of your order.

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Airdome Bldg., South Sixth St.

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That is a well-known old-time saying; but it does not apply to you, because **YOU ARE NOT A CAT.** It is safe for you, and for your wife and your children, to want to know what is to be found in the woods and the fields around you, in the swamps and meadows, the ponds and ditches. Do not hesitate to indulge in the Joy of CURIOSITY. You are not a cat. You can satisfy the desire to know by reading

THE GUIDE TO NATURE

It is ten cents a copy;
one dollar a year.

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ARCADIA :

Sound Beach, Connecticut

HONEY MARKETS

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retail merchants. When sales are made by commission merchants the usual commission (from five to ten per cent), cartage, and freight will be deducted; and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage and other charges are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

NATIONAL BEEKEEPERS' ASSOCIATION GRADING RULES Adopted at Cincinnati, Feb. 13, 1913.

Sections of comb honey are to be graded: First, as to finish; second, as to color of honey; and third, as to weight. The sections of honey in any given case are to be so nearly alike in these three respects that any section shall be representative of the contents of the case.

FINISH:

1. *Extra Fancy*.—Sections to be evenly filled, comb firmly attached to the four sides, the sections to be free from propolis or other pronounced stain, combs and cappings white, and not more than six unsealed cells on either side.

2. *Fancy*.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white, and not more than six unsealed cells on either side exclusive of the outside row.

3. *No. 1*.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white to slightly off color, and not more than 40 unsealed cells, exclusive of the outside row.

4. *No. 2*.—Comb not projecting beyond the box, attached to the sides not less than two-thirds of the way around, and not more than 60 unsealed cells exclusive of the row adjacent to the box.

II. COLOR:

On the basis of color of the honey, comb honey is to be classified as: first, white; second, light amber; third, amber; and fourth, dark.

III. WEIGHT:

1. *Heavy*.—No section designated as heavy to weigh less than fourteen ounces.

2. *Medium*.—No section designated as medium to weigh less than twelve ounces.

3. *Light*.—No section designated as light to weigh less than ten ounces.

In describing honey, three words or symbols are to be used, the first being descriptive of the finish, the second of color, and the third of weight. As for example: Fancy, white, heavy (F-W-H); No. 1 amber, medium (1-A-M), etc. In this way any of the possible combinations of finish, color, and weight can be briefly described.

CULL HONEY:

Cull honey shall consist of the following: Honey packed in soiled second-hand cases or that in badly stained or propolized sections; sections containing pollen, honey-dew honey, honey showing signs of granulation, poorly ripened, sour or "weeping" honey; sections with comb projecting beyond the box or well attached to the box less than two-thirds the distance around its inner surface; sections with more than 60 unsealed cells, exclusive of the row adjacent to the box; leaking, injured, or patched-up sections; sections weighing less than ten ounces.

HONEY GRADING RULES ADOPTED BY THE COLORADO STATE BEEKEEPERS' ASSOCIATION, DECEMBER 13, 1911.

FANCY WHITE.—Sections to be well filled, comb firmly attached to all sides and evenly capped except the outside row next to the wood. Honey, combs, and cappings white, and not projecting beyond the wood; wood to be well cleaned; no sections in this grade to weigh less than 13½ ounces.

No. 1.—Sections to be well filled, combs firmly attached on all sides and evenly capped, except the outside row next to the wood. Honey white or very slightly off color. Combs not projecting beyond the wood; wood to be well cleaned; no section in this grade to weigh less than 13½ ounces.

CHOICE.—Sections to be well filled; combs firmly attached; not projecting beyond the wood, and entirely capped, except the outside row next to the wood. Honey, comb, and cappings from white to amber, but not dark; wood to be well cleaned; no section in this grade to weigh less than 12 ounces.

No. 2.—This grade is composed of sections that are entirely capped, except row next to wood, weighing from ten to twelve ounces or more; also of such sections that weigh 12 ounces or more, and have not more than 50 uncapped cells all together, which must be filled. Combs and cappings from white to amber in color, but not dark; wood to be well cleaned.

EXTRACTED HONEY.—Must be thoroughly ripened, weigh 12 pounds per gallon. It must be well strained, and packed in new cans. It is classed as white, light amber, and amber.

STRAINED HONEY.—This is honey obtained from combs by all other means except the centrifugal extractors, and is classed as white, light amber, amber, and dark; it must be thoroughly ripened and well strained. It may be put up in cans that previously have contained honey.

DENVER.—Regarding the honey market, we have no more comb honey to offer. We are jobbing extracted honey as follows: White extracted, 8¢ light amber, 7¢. We pay 32 cts. per pound cash and 34 in trade for clean yellow wax delivered here.

COLORADO HONEY-PRODUCERS' ASSOCIATION,
DENVER, Col., May 16. F. RAUCHFUSS, Mgr.

INDIANAPOLIS.—Fancy white comb is being offered here at 16 to 17 cents per pound; amber comb, 14 to 51; white-clover extracted, 9 to 10 in 5-gallon cans. Much comb honey is being held here; but at this writing there is very little demand. Extracted is in fair demand. Producers are being paid 32 cents cash for beeswax, or 34 in trade.

Indianapolis, May 22. WALTER S. POWDER.

**JUST
OUT!**

New 1914 Catalog--"Everything for Bees"

Lay your plans for the new season now. Send for the 1914 Muth Catalog of Beekeepers' Supplies. Its just off the press. In it you will find full information about the remarkable MUTH SPECIAL Dovetailed Hives. Drop a postal card at once---sure!

THE FRED W. MUTH CO.

204 WALNUT STREET

"The Busy Bee Men"

CINCINNATI, OHIO

P. S.—Ship us your old combs and cappings and let us render them for you. Our process extracts the last drop of wax from the slumgum. This means money for you. Write for full particulars.

SPECIAL DELIVERY

During this month we shall double our usual efforts in points of delivery and service. We carry nothing but the Root make, which insures the best quality of every thing. We sell at factory prices, thereby insuring a uniform rate to every one. The saving on transportation charges from Cincinnati to points south of us will mean quite an item to beekeepers in this territory. We are so located that we can make immediate shipment of any order the day it is received.

New 64-page Catalog

Our new 1914 catalog contains double the pages of former editions and requires extra postage. It is filled from cover to cover with complete lists of goods in every line to meet every requirement of beekeepers. If you haven't received a copy when you read this, be sure to ask for one. It will save you money.

New Features for 1914

Few radical changes have been made this season. It should be noted, however, that we will send out with regular hives, unless otherwise ordered, the metal telescopic or R cover with super cover underneath. The side rail for the bottom-board will be extra length so as to overcome the difficulty experienced by some last season. Improvements have been made in extractors. We shall carry a very heavy stock so that orders may be filled with our usual promptness. Write us your needs.

C. H. W. Weber & Co.

2146 Central Avenue

Cincinnati, Ohio

Gleanings in Bee Culture

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BOSTON.—We quote fancy and No. 1 white comb honey at 15 to 16; fancy white extracted honey in 60-lb. cans, 11. Beeswax, 30.
Boston, May 23. BLAKE-LEE CO.

ZANESVILLE.—No 1 to fancy white comb is quoted at 16½ to 18½ in a jobbing way; 18 to 20 wholesale. Best white extracted in 60-lb. cans, 9 to 10. These quotations are for white clover. Western honeys rule about a cent less. Market firm, but rather quiet. Producers receive for beeswax 32 to 33 cash, 34 to 35 in exchange for supplies.
Zanesville, May 22. EDMUND PEIRCE.

LIVERPOOL.—Ninety-four bags of Chilian beeswax have arrived, and buyers are waiting for these to be placed on the market. The honey market is very dull for Chilian on spot; but there is more enquiry for direct shipment to the Continent. Value of average pile 3 (yellow to brown in color) is \$4.80 to \$4.92 per cwt., c. i. f.
Liverpool, May 13. TAYLOR & CO.

NEW YORK.—As to comb honey, we have nothing new to report. There are some off grades of amber still on the market unsold, as there is no demand to speak of for those grades, and it is almost impossible to find buyers. In regard to extracted, the demand is only fair while arrivals are large, especially from the West Indies, and the new crop is now beginning to arrive from the southern States. We quote nominally from 58 to 75 cts. per gallon, according to quality. Beeswax is firm at 34 to 35.
New York, May 19. HILDRETH & SEGELKEN.

ST. LOUIS.—The honey market is very dull at present. We are quoting southern extracted and strained bright amber honey in barrels at 5½ to 6½; in cans, 6 to 7; dark, ½ to 1 ct. per lb. less. Comb honey, fancy clover brings from 14 to 15; light amber, 12 to 14; broken and leaky from 7 to 8. By the case, fancy white-clover comb honey brings from \$3 to \$3.25, or light amber from \$2.25 to \$2.50; dark and inferior, \$2.00. Beeswax is very scarce, and wanted; quoted prime at 35; inferior and impure, less.
R. HARTMANN PRODUCE CO.
St. Louis, May 20.

KANSAS CITY.—Our market is about cleaned up on comb honey—not a case left in the wholesalers' hands, and very little left in the retailers'. Plenty of extracted honey, and the demand is very light. New comb honey in 24 sections should sell for \$3.25 to \$3.50 per case for No. 1 quality. We quote extracted white at 7½ to 8. On beeswax we quote 30 for No. 1 quality, and 25 for No. 2.
C. C. CLEMONS PRODUCE CO.
Kansas City, Mo., May 15.

CHICAGO.—The volume of trade is very narrow, and consists in dealers buying just a little to have it on hand when inquired for. No longer is there a show made of it on the counters, etc., as in winter months, all of which is a seasonable condition. The fancy grades are not plentiful, and continue to bring from 14 to 15, according to the flavor, style, and every thing else that go to make a fancy article. Any thing off from this grade sells at from 1 to 3 cts. per lb. less, with amber grades bringing from 10 to 12. Extracted is meeting with practically no demand, and prices are inclined to be easy. Especially is this so aside from fancy clover and linden, which, like the comb, is in better demand, and more firmly held. Beeswax continues to sell upon arrival at from 33 to 35, according to color and cleanliness.
Chicago, May 18. R. A. BURNETT & CO.

Imperial Steel Range Company

The Imperial Steel Range Company, 840 Detroit Avenue, Cleveland, Ohio, has issued one of the most beautiful catalogs of stoves and ranges ever published. The catalog gives a most interesting description, beautifully illustrated, of the entire process of stove-making with special reference to the exclusive features of the Imperial, such as the stone-oven bottom, dustless ash-sifter, and practical odor-hood. One of the most interesting features of the catalog is the

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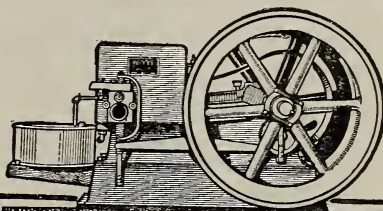
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My New Book shows the "inside" of engine selling as well as of manufacturing. Tells you how to be safe in your engine selection, even if you don't pick a WITTE. Send me just your address, for one of these fine books by return mail.

Ed. H. Witte, Witte Iron Works Co.
1939 Oakland Ave., Kansas City, Mo.

story of how the old "Dutch oven," the famous baking secret of the colonial days, was brought back to modern use by means of the stone-over bottom which affords scientific heat radiation and is responsible for the wonderful evenness and success of baking in the Imperial. It has been well said that it was almost a miracle that modern invention has been able to restore all the advantages of the old Dutch oven, and at the same time eliminate the disadvantages and drawbacks under which the housewives of Colonial days labored on baking day. The Imperial catalog is well worth sending for, and can be had free for the asking.

Gleanings in Bee Culture

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CIRCULATION 35,000

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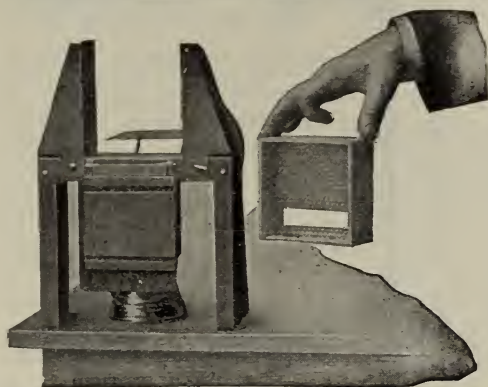
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Woodman's Section-Fixer



A new machine of pressed - steel construction for folding sections and putting in top and bottom starters all at one handling.

With top and bottom starters the comb is firmly attached to all four sides, a requirement to grade fancy. Increase the value of your crop this season by this method.

The editor of the "Beekeepers' Review," in commenting on things at the recent Detroit, Mich., beekeepers' convention, stated:

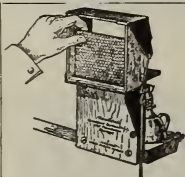
It was the consensus of opinion of those who saw the machine work that it was the best thing for the purpose ever brought on to the market.

The C. & N. W. Beekeepers' convention in December unanimously adopted the following resolution: "Whereas this convention has been impressed by the exhibit of the Woodman Combined Section-press and Foundation-fastener, and believes that the same is practical, and a labor-saver for the bee-keepers at large; *Therefore*, be it resolved that the Chicago-Northwestern Beekeepers' Association in convention assembled do heartily endorse the above device as a practical machine for beekeepers producing comb honey."

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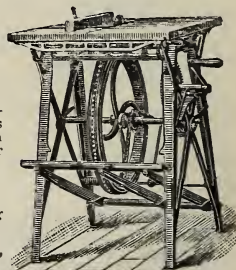
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ESTABLISHED 1889

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I shall be glad to hear from my friends as to how bees are wintering and springing, and as to prospects for clover.

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Let us take you with us through the different operations and show you how Lewis Sections are really made.

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No matter what Hives, what Frames, what Supers, and what not you use,

Insist on Lewis Sections

Every crate going out with the Lewis name means something to you. Here is what one of our customers has just written us:

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G. B. Lewis Company, ^{Sole} Manufacturers Watertown, Wis.

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Gleanings in Bee Culture

Published by The A. I. Root Co., Medina, Ohio.

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JUNE 1, 1914

NO. 11

EDITORIALS

A Broken Arm and Hundreds of Stings as a Result of Climbing a Tree for a Swarm

IN addition to the danger of losing valuable swarms there is the added danger, when one is obliged to climb trees, of breaking a leg or an arm. For this reason, if for no other, queens should be clipped.

We are indebted to one of our subscribers, George M. Fetzer, Allentown, Pa., for a clipping describing a most painful accident to Frank Coffin, of Slatington, Pa.

Mr. Coffin had climbed a tree for a swarm, and, holding himself by means of a line-man's belt, began to saw off the limb on which the swarm had clustered. In some way his arm was broken as the limb swung down; and as he was unable to free himself so as to get to the ground he was so badly stung that he had to be taken to a hospital.

Destructive Smelter Smoke in and about Denver; Hailstorms in other Parts of the State; Prospects Unequaled, However

THE following letter, received from our Colorado correspondent, Mr. Wesley Foster, came too late for insertion in his regular department; but it is of such great importance that we have thought best to place it before our readers in the editorial columns.

SMELTER SMOKE OR CITY SMOKE.

Several thousand colonies of bees have been decimated by some undetermined cause. This is within fifteen miles of Denver. The brood is not affected, except as it becomes chilled or starved from the lack of care and warmth. The great majority of the hives have but a small number of bees in them—less than one month ago. Some of the colonies may build up, but there will be little surplus from them unless there is a good late flow.

The strongest colonies are affected the worst, and weak colonies with pollen carried over from last year are not affected seriously. This leads to the conclusion that it must be something which poisons the pollen. Smelter smoke and probably ordinary city coal smoke will do this. The sulphur deposit from the smoke may fall upon and mingle with the pollen to cause the trouble. There is nothing that

can be done that is known so far. The malady affects the bees north and west of Denver for fifteen miles, and east and south for eight or ten miles. This trouble has visited the vicinity of Denver before, and also has wiped out large numbers of bees around Pueblo.

This, if it comes upon us often enough, will play havoc with city beekeeping, and suburban beekeeping for that matter. Beekeepers will have to remain strictly "rural" to avoid smoke.

This bad report from Denver and vicinity will hardly affect the crop in Colorado greatly; but there have been destructive hailstorms in the Arkansas Valley in the past two days. Five inches of hail fell at Colorado Springs, and a very destructive storm visited the west end of Prowers County. I will inform you later of its severity. Prospects are simply unequaled in some parts of Colorado.

The New Ruling in Regard to Labeling Food Products

OUR readers will remember, perhaps, seeing on labels covering many of the principal food products on the market the words, "Guaranteed under the pure food and drugs act of June 30, 1906. Serial No. —." But it now appears that certain unscrupulous manufacturers are trying to make it appear that when the Government gave them a serial number it thereby put its seal of approval on their products. All this serial number signifies is that the manufacturer has agreed to comply with the requirements of this food act. While he may comply strictly with the letter of the law, his product may be of very poor quality, and the guarantee clause has made it appear as if the Government said they were all right. The Government has now amended the rules and regulations in such a way that after May 1, 1915, the words "Guaranteed under the pure food and drugs act of June 30, 1906, serial No. —," shall no longer be used. But a manufacturer has a right to guarantee on his bill of sale, invoice, bill of lading, or other schedule that the article is pure in accordance with the pure food and drugs act.

Those who are using honey-labels with a guarantee clause, as before mentioned, will please take notice. To be on the safe side,

all new labels should be printed with the guarantee eliminated from now on to make sure that there will be none left by May of next year.

Safe Arrival of the Second Load of Bees at Medina; Robbing at our Home Yard

THE second car of bees arrived here in splendid condition, notwithstanding it has been very hot for a couple of days back, and that at the hour of arrival the mercury hovered close to 90 in the shade. To make matters still worse, the honey-house door had been left open on the Sunday previous, and the bees, already in the yard, found it very convenient to help themselves to honey in the combs. They were, indeed, doing a land-office business when they were discovered. The next day was the day when the bees were to arrive, and we were exceedingly apprehensive as to what the result would be when the car should be unloaded, especially if there were any melted or broken-down combs. As the mercury remained high, and the hour for the arrival of the bees drew near, we became still more apprehensive. In the mean time robbers had pounced on some weak nuclei; and, besides this, there was the characteristic hum of robbing that is any thing but pleasant to the beekeeper.

A platform had been built up at one corner of the home yard, close to a siding where the bees were to be unloaded. All hands had been notified to be ready. The automobile truck and our big team were to be on hand in due time. The weather became hotter and more sultry, and the robbers were as mean as we had ever known them in Medina.

In this connection perhaps we ought to say that we always particularly stipulate, when we hire men for the beeyards, that they be careful to guard against robbing; for a boy or man who allows robbing to get started spoils his chance of getting an increase in wages, even if he does not lose his job altogether. Well, when one of our editorial force hived a swarm on Sunday, and left the door of the honey-house open, the joke was on us. We told the boys it was a good thing that they had the laugh on us.

Soon we heard the toot of the approaching locomotive, and our heart sank within us. Our Mr. Calvert suggested, "Why not unload the bees in the basement of the big warehouse?" Capital idea! Why didn't we think of it before? We immediately got in touch with our local railroad agent over the phone. We told him we wanted that car

switched down to the warehouse. The before-mentioned basement is cool, and even on the hottest days it maintains a temperature not above 65. Soon the train came thundering in. The car was put in place, and then a gang of men began work, for not a minute was to be lost. In the space of an hour we had the car unloaded in a cool basement, secure from robbers, and two loads of bees on the way to the outyards. A third load was sent off before dark; and by nightfall we had nearly 100 colonies located.

The basement is so nice and cool that the bees at this writing, 8 A. M., May 26, are perfectly quiet, and the automobile truck is moving the bees to the outyard, 30 colonies at a time. We shall have all the bees placed by noon.

The weather was so extremely warm on this trip that our Mr. Jack Deyell actually gave the bees five barrels of water, and not a colony has been lost so far, and the average bottom screen does not have a hundred bees on it—sometimes not more than a dozen. The most that any has had is a double handful from two or three colonies. Where such loss occurred at all, it was evident there were too many bees to the hive.

We feel now that the next two cars can not come through under worse conditions. There is not a single comb, so far as we know, that was broken down on this trip. We assume we shall be able to do still better on the next two carloads that are yet to come, for conditions can scarcely be worse. The last two started to-day, and will arrive in Medina, probably, on the first of June.

The secret of moving bees successfully is in having strong staging so as to provide plenty of air space at the top and bottom screens of the hive, not too many bees to the hive, and plenty of water *en route*. Our first carload of bees came when the weather was cool, and required only two barrels of water. The second car came when the weather was extremely warm, and took *five* barrels of water.

Our Cover Picture

OUR cover picture for this issue, as mentioned on page 413, shows a boatload of three-frame nuclei on the way from Randall's Landing, Fla., where most of our bees were located, to the nucleus yard five miles above. Before moving the bees north we formed 500 nuclei, 50 at a time, and took them five miles up the river, from which point they were to be picked up by the big boat on the way to Bainbridge when the

shipments back to Medina were begun. Some may wonder why we moved them so far away, as it is necessary to have them located only far enough away so that they will not attempt to return to their old entrances. The reason for moving them so far was that along the Apalachicola River the banks are low and the ground swampy in many places, and it would be unwise to locate bees anywhere at random without building platforms to get them above high-water mark. The nucleus yard is located at Fort Gadsby, one of the few places where the bank is high.

It is surprising what a large load one of these small launches will carry. The hives can be piled on the bow and stern, and when the interior is filled up and also the roof above, considerable of a load (twenty-five to thirty hives) can be moved at once. We were able to carry fifty or sixty of these three-frame nucleus hives at a time.

Since there is very little jar, there is no need of fastening the covers, and the entrances are quickly closed with a V-shaped screen pushed in without tacks.

Where to Locate Outyards.

As this number is devoted to the subject of moving bees, the matter of locating yards is so closely connected with it that a few words on the subject will not come amiss, even though they may savor somewhat of a repetition of former statements.

First, as far as possible apiaries should be located on a stone or gravel road to avoid mud in wet weather. While a team *can* draw bees and supplies over bad roads, a large amount of time is consumed; whereas with good roads better time can be made, especially if the automobile truck is used.

Second, the yard should be located where moderate shade can be secured, remote from the general highway, and not next to or adjoining a cultivated field. A young apple-orchard, surrounded by pasture, with a driveway leading up to it from the road, makes an ideal place.

Third, the yard should be located two or three miles from any other yard to get the best results; and sometimes it will be necessary, on account of conditions, to put them as close as a mile and a half apart, and sometimes five miles.

Fourth, locate the yard on the farm of some man well known to you—a friend if possible, but always one who is broad-minded enough to know that bees are a great benefit to some kinds of farm crops, especially the legumes, and all fruit-orchards. Never locate on the farm of a narrow-mind-

ed, close-fisted man, and one hard to get along with. Bees may sometimes be a little cross. Their flight may encounter the pathway of teams or stock. Bees may, when short of natural pollen, make themselves a general nuisance around the feed-boxes of stock. A narrow-minded, crusty sort of chap will make no end of trouble; whereas an up-to-date farmer will be willing to put up with some inconveniences for the sake of the benefit the bees may be to him. It is very seldom that bees make any trouble whatever; and to avoid difficulty it is best to locate the beeyard a little back from the roadway, and from the house and farm buildings.

Avoid a clump of woods that leave only narrow openings in places for the bees to enter. Returning bees want a clear wide space for entrance into a grove. If these openings are contracted they will concentrate their flight in places, with the result that there will be thousands of bees flying back and forth at these concentrated points. If teams or cattle get into these lines of flight they may be stung. Apiaries should be located so that the bees may have a free and unobstructed entrance to the yard from all points of the compass. A piece of high ground is better than low ground, both on account of danger of floods in the spring of the year and on account of the fact that the flight of the bees will be above teams or stock on lower ground. Orchards are usually located on high ground to avoid frost. As bees are a direct benefit to the orchard, locations in such places are desirable in every way.

Lastly, avoid a location next to a railroad track. We had one such location, and maintained it for a couple of years; but we were compelled to abandon it on account of fire from cinders lodging in the grass. We had two colonies burned up, and it is a wonder that the whole yard was not burned out.

Where one does not own an automobile it is desirable to locate the yards along trolley lines, so a man can, for a nickel or a dime, go to his yards at very little expense.

That Trainload of Bees en route from Florida to Ohio

ON page 363 of our last issue we stated that we hoped to make an increase of four carloads of bees from one, and we have; but as the weather was very unfavorable, practically all of that increase was made since the first of February, and the greater part of it since the first of March. Mr. Marchant did not have a full carload when

he arrived at Apalachicola last November. A blizzard of snow came on in Medina just about as we shut the bees up Nov. 19, as has been explained elsewhere. They lay in the snow for some four or five days, and a couple more days in our warehouse. All told they were confined for two weeks. The cold blizzard in the North was followed by a hot spell in the South, and the poor bees were compelled to go from one extreme to the other. The loss on the first car down was nearly 25 colonies out of the 300, so the increase was made up practically from 275. Only a few of the entire number were fair colonies. Practically a majority of them were four and five frame nuclei. When the cold weather of February and March came on, it seemed very improbable that much of an increase could be made. No wonder Mr. Marchant had the "blues." But a good flow from black tupelo and better weather conditions helped much. He felt that he *must* succeed, and did to the extent of making 275 weak colonies into 800 fair colonies and 500 three-frame nuclei. This would make the equivalent of nearly 1000 colonies all told. Mr. Marchant had figured on bringing back three carloads from the one, and in securing enough honey to pay the freight. He not only did this in a bad year, but actually made an increase of four carloads and secured enough honey to pay the freight down and back on the bees. He did not, however, rear any queens. These were furnished him by his father.

The first car started north on the 8th of May, and arrived in Medina on the 13th in splendid condition. There were only about five combs broken down, and they were old ones. All the new combs had been extracted down until there was very little honey left in them, or just about enough to carry the bees through to Medina. The loss of bees was almost insignificant, or about two pounds out of twenty colonies.

Weather conditions were favorable. The next carload of bees started on the 19th, and will arrive in Medina on Monday afternoon the 25th. But the weather is extremely warm at this writing, May 20; and if the second car comes in as good condition as the first, we shall be very happy. The hot weather will mean, of course, that Mr. Deyell, who comes with the second car, will have to wet down his bees much oftener. This will be accomplished as explained elsewhere in this issue. The last two cars will start either on the 26th or 29th. There will be one man to each car, but they will move together. If we can get through the last three carloads as well as we did the first, we shall consider our experiments a big suc-

cess. In the mean time we are awaiting them with some anxiety; for no one can tell what extremely hot weather will do.

As previously explained, we loaded the first car as near the locomotive as we could in order to avoid as much as possible the suffocating gases from the engine in going through tunnels; but in doing this small cinders were scattered all over the hives and throughout the car of bees. A large portion of the cinders sifted through the wire cloth and down into the combs. When we examined some of the hives after being unloaded we found the cells were filled with hundreds of little black cinders. Whether the bees would remove them was the question. A few days afterward we had the satisfaction of seeing the bees taking the cinders out and depositing them on the bottom-boards. At first we were inclined to wire Mr. Marchant to put the remaining cars of bees at the rear end of the train; but we have since concluded that the front end is all right after all.

IMPORTANT REQUISITES FOR MOVING A CAR OF BEES.

In moving bees in car lots it is very important to have all arrangements made in advance. The first thing to settle is the *route*. This should be carefully studied in order to get through freights and direct connection from one road to another. To do this it requires considerable correspondence with the railroad companies. It is not always the shortest cut that will make the quickest delivery. Sometimes it happens that a little out-of-the-way route with through or fast freights and good connections will be much quicker than a more direct route with poor connections. The bees will keep quiet *as long as the train is moving*; but if the car is left standing in a railroad yard for 24 hours during hot weather they may cause serious trouble and loss. When the car is on the way fresh air will, of course, circulate over the hives.

The combs must not be heavy with honey and the colonies must not be strong. A strong colony is almost sure to die before it reaches destination.

It is also very important to get an agreed freight rate from the point of starting to destination. Without this there may be overcharges and no end of trouble.

A special car of suitable size and lumber for platforms must be ordered *before* the bees start. Do not attempt to shut the bees up until a car is secured and on the siding. Next, have your carpenters engaged to put your platform or staging inside of the car. Nothing less than two by four stuff *bolted* together should be used.

Dr. C. C. Miller

STRAY STRAWS

Marengo, Ill.

SPEAKING of lining up against the saloon, the question is asked, p. 400, "Will the old parties *dare* line up?" Good question. Here's another: "Will Christian men *dare* line up against the old parties if the old parties don't line up against the saloon?"

A HOUSE-GREINER difference of opinion as to "early-raised queens" occurs on page 387. Queens reared by my bees before clover bloom have nearly always proved a disappointment; but since dandelions have become so abundant there have been more successes. Just possibly the Greiner bees may have a better chance for early rearing than the House bees.

OPPOSERS of woman suffrage have objected that, if women had the vote, they would vote just the same as the men. Illinois women refuted that fallacy April 7. Their vote closed a lot of saloons that the male vote would have left open, and made dry some of the larger cities such as Elgin. [Late reports show that women's votes made it possible to put out something over a thousand saloons in Illinois. Speed the day when the women in all the States can vote.—Ed.]

M. F. MARKLE tells me that Jews are great honey-users. They make a specialty of certain cakes or cookies made with honey because of their keeping qualities. In general they prefer candied honey for table use. [The Jews are certainly very fond of honey. They dispose of large quantities of honey granulated in the comb, while other peoples regard it with suspicion and will not touch it. The Jews have taught us thrift and finance, and perhaps they can teach us something about eating granulated comb honey. It is really fine eating.—Ed.]

THE *Country Gentleman*, p. 838, has a full page on fighting insect enemies, in which the sole reference to bees is in this sentence: "Do not spray trees or plants while in blossom, because of endangering the lives of visiting bees." But that single sentence is magnified many times by a sub-head: "Have a Care for the Bees." This goes to show that intelligent horticultural editors are awake to the importance of bees; and a plea from one of them is worth more than a plea from all the bee-editors on the continent. [Our fruit journals and agricultural papers are now very strong against spraying trees while in bloom. As we have before mentioned in these columns, the fruit-growers are waking up to the importance of having bees pollinate their trees;

and they are letting the fact be known by asking local beekeepers to put bees on their places.—Ed.]

F. GREINER, you're dead right in that good article, p. 386, that there is no better time to rear queens than swarming time, a time selected by Nature. But isn't superseding time just as natural? Please remember that in the natural course *every* queen is superseded, and that by the bees. With me, at least (and I suspect other bees are like mine) that superseding practically always takes place after swarming time is all over. [In this connection we venture the statement that an experienced queen-breeder who understands the art of feeding—that is, of stimulating—can rear just as good queens out of season as during the swarming or supersedure impulse. Said an experienced queen-breeder who has raised thousands and thousands of queens, "I prefer to have no honey coming in; then I have all the conditions under my control; and knowing those conditions I produce the best of queens." And we believe he is right. But the average queens raised by the average person will not be equal to those raised under natural impulses.—Ed.]

FOLLOWING the announcement of the Chicago *Record-Herald* of its ban on liquor advertisements, columns have been occupied with endorsement and rejoicing from men, women, and organizations of all sorts. On the other side appears a defense of the liquor business, occupying a column and a half, by the president of the leading high-class (?) liquor firm of Chicago. The greater part of it is occupied with a plea for compensation from government in case the business is closed up—clear proof that the closing up is *expected*; and when those high in the councils of the liquor power expect the end it cannot be so very far away. [If some of the temperance people would take pains to write a courteous letter to the editor of the daily that comes to their home, protesting against the liquor advertisements, and calling attention to the papers that have already dropped them, it would have a telling effect. It is because Christian people and temperance folks generally do not take advantage of the power that lies in their hands that these liquor advertisements continue. If an editor receives a dozen letters a week from his temperance subscribers, and if he has 100,000 names on his list he would begin to think something would happen if he did not eliminate the offending advertising.—Ed.]

BEEKEEPING AMONG THE ROCKIES

Wesley Foster, Boulder, Colorado.

THE LOCAL MARKET.

The local market has quite a supply of comb and extracted honey still on hand, and some will undoubtedly be carried over. The comb honey has not showed any appreciable signs of granulation. No. 1 and fancy comb honey are retailing now at 10 cents in most of the stores. No. 2 honey sells for 8 1-3 cents, but this is somewhat under weight. The grocers are selling the comb honey for about what the honey cost them in trade, or a little less.

* * *

WHY SWARMS GO TO THE HILLS.

Why issuing swarms almost invariably go to the foothills has been a question for which I have not had a satisfactory answer. This is true of nearly all the apiaries located from one to eight or ten miles of the foothills. Do the bees see the mountains and instinctively go toward them, or do they make toward the hills because the early spring pollen and nectar come from them? The foothills do not furnish any thing like the satisfactory pasturage throughout the season that is to be had from the alfalfa-fields, but perhaps the bees size up the situation by the early indications.

* * *

WE WANT IT DRY.

The editor, in the May 1st issue, says that the Weather Bureau reports that an extremely wet season is likely to be followed by a dry one. We have had the wet season here, and we hope that this season will be hot and dry. Of course, we shall not hope it will be dry in the East. But it is this way: Up in our mountains are millions of tons of frozen and packed snow—ice is really what much of it is. The "woods" are full of it up near the timber-line, and much of this will not melt and come down to furnish water for irrigation unless we have hot, dry weather in July and August. We generally like to have one or two good rains in July and August; but it so often turns cold after a rain that we do not wish for much rain in Colorado.

* * *

PROSPECTS UP TO DATE.

To date, May 9, we have had something over seven inches of precipitation since January 1—over two inches above normal. Apple orchards are just coming into bloom, and dandelions have been furnishing nectar for about a week. Some of our colonies have made preparations for swarming, and we are bound to have some swarms during

fruit-bloom. Two weeks more and the danger of alfalfa being frozen back will be over. If we have no freeze, alfalfa should be in bloom by the first week in June. Extra supers of drawn combs have been put on thirty or more colonies, and another week will see more than one hundred more go on. Colonies are at least 25 per cent stronger at this date than last year; but I think there is less honey in the hives.

* * *

CELLAR WINTERING IN THE WEST.

I have received several favorable reports from Colorado and Wyoming of bees wintering very successfully in cellars. We have very changeable winter weather in the intermountain regions, and it would not surprise me to see cellar wintering receive quite an impetus in the next ten years. There is one thing that augurs well for it, and that is that it is easy to keep cellars dry in most places. The most serious trouble I would think would be in keeping the cellar cool enough during some of the warm weather we have some winters.

* * *

WHEN IS A COLONY INSPECTED?

That report of apiary inspection in Arizona brings up again the question of what constitutes the inspection of a colony of bees. To me it seems that the inspection should be thorough enough so that any discernible evidences of foul brood will be found. I consider that an examination of all the combs with brood in them, and all the empty brood-combs for the dried scales, constitutes a thorough inspection. With the small amount of money available in most States for apiary inspection I do not think it advisable to inspect every hive in an apiary unless there is disease found there or unless there is considerable disease in the neighborhood. The competence and ability of the owner will be a factor too. It is not right for the intelligent beekeepers to demand the inspection of all their bees each year by the inspector. I have been called upon to inspect an apiary, and instructed to bring along scissors to clip the queens. It is possible to inspect 100 colonies a day if they are located in large apiaries. I inspected 140 colonies one day, but the owner worked with me, removing cover, cloth, and follower-board, and replacing them when I was through. The average number of colonies inspected in a day by the inspectors in Colorado would probably be 35 to 50.

BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.

March borrowed some fine days from April, and in return gave April some of her own kind. The past two weeks have not been weather that makes the beeman glad, and the week now ending (April 30) has been one that would try the patience of Job had he been a beekeeper. Think of the maximum temperature on April 29 being only 50 degrees! There has been a great storm on in the southern part of the State, one of unusual note, in that the rainfall in the interior foothill region was very heavy, reaching a total of $2\frac{1}{2}$ inches in the San Bernardino Valley, gradually becoming less until in the coast region it amounted to nothing. There is no question but that the quantity of honey from the button sage will be less than it would have been had the weather continued fair. That the flow from the white sage, buckwheat, and later-blooming plants will be materially increased in this section seems probable, the ground being thoroughly soaked to a good depth. The blooming period of the button sage may be prolonged, but it has only a short time longer to bloom at best.

* * *

Referring to the editorial, page 281, April 15, "More expensive to winter bees in the South than in the North," I think that there is food for thought on this subject, and our California beekeepers can study it with profit—not alone the exact text, but also the quantity of stores necessary to keep colonies in good condition through the winter with an additional amount sufficient to tide them over through the seasons of dearth. For such seasons come, and invariably they spell disaster to many of our beemen because they provide only for the winter. These seasons of extreme dearth are nearly always followed by a good honey-flow when the bees are apt to be in the worst shape to gather it. That is the condition that prevails in California to-day—a good honey-flow and a small amount of bees to gather it.

There are so many reasons why plenty of stores should be left on the hive that I will not attempt to discuss them all; but the fact remains that, of all things that cause the heavy loss of colonies during seasons of dearth, the influence of lack of stores is the chief cause. Mr. O. O. Poppleton is quoted in the above-mentioned editorial as saying, "My problem is not so much to encourage brood-rearing as to keep it down." In this respect we differ to some extent, for the problem with us is generally to induce suf-

ficient breeding in the autumn to supply young bees to give the bees a good start in the spring, before they are worn out by age. Plenty of stores are advisable under almost all conditions in which the rearing of brood figures. I have followed closely the condition of stores of my colonies through the winter of 1912, and on down the long dry summer, following with an eye to ascertain the condition of the colonies that give the best account of themselves. Invariably I find that the colony having the greatest amount of stores is the one to respond most quickly to the influence of some pollen-producing plant that came into bloom without nectar. To my notion pollen is the greatest breeding stimulant of all. Yet pollen alone in time of a dearth is not sufficient to induce breeding if there is a shortage of old honey. With an ample supply of old honey at hand the response is noticeable immediately.

The same may be said of stimulative feeding. Colonies with ample stores will respond more quickly to stimulative feeding than those with a very limited amount. This is especially true in the winter and fall, for nature seems to spur the bees on to take greater risks in the spring than at any other time of the year. My heaviest colonies during the past summer carried from forty to fifty pounds of honey. These were not only the strongest in stores but also in bees. In the fall I began dividing their stores among those having from nothing to a very small supply. They were also low in bee force. When through dividing I had sufficient stores on all colonies to tide them over until spring, but those from which I took the stores were the heaviest in bee force, and are to-day. It is from them that I am now getting my heaviest surplus. I might modify the above to cover a few colonies that had old queens that were not able to bring their colonies to their best. I have had the quickest and most satisfactory response to stimulative feeding where fed in the open, with a ten-per-cent-sugar syrup. This seems to excite them to breeding in a more natural way, as the active outdoor flight and the thin syrup being carried into the hive, so much like nature's way, gives the entire yard a more natural activity. Much honey is required to produce young bees, and this should be figured on every year when leaving the supply of stores, for the following season may or may not give sufficient stores, and on this account it is always best to be on the safe side,

J. L. Byer,

NOTES FROM CANADA

Mt. Joy, Ont.

Bees have wintered well in Ontario so far as I have learned from the reports sent me. Although the weather, as I have mentioned, has been generally cool, yet the bees seem to have built up nicely so far. On the 7th of May, toward evening, I noticed two colonies at the home yard with small clusters outside of the packing-cases. Early in the day they had been working on pussy willows. These were two eight-frame L. hives heavily fed last winter; and as they were strong colonies with young queens, no doubt the smaller hives explain the crowding outside. Clustering so early is unusual in my experience; and, needless to say, those two colonies will need attention as soon as any nectar comes in.

* * *

At this date, May 11, hard maple and willows are just opening, and dandelion is making quite a showing on protected southern slopes, so in spite of the cool weather we had earlier, the spring is about on normal time so far as vegetation is concerned. So far, bees have had very few days to gather pollen; for, although we have had little freezing for some time, cool weather has been the rule. In the May 1st issue it is stated editorially that there has been a heavy precipitation of snow and rain almost all over the United States and Canada; but that certainly does not apply to our section in the vicinity of Toronto. We had very little snow all winter, and this spring we have not had a real rain yet. Around London and other western Ontario points I understand they have had heavy rains, so it looks as though that section will be favored again for another season. But we may all get all the rain we need yet; and instead of looking for a drouth, as the editor mentions, we are rather expecting wet weather, as one extreme generally follows another.

* * *

Judging from the heavy correspondence I have received in connection with an article written in another journal, regarding the question of overproduction, there is no question in my mind but that the great majority of the large producers (people who depend upon beekeeping for a living) honestly think that such a thing is not only possible but probable in the near future. Looking at the question in an unprejudiced way, I think it must be admitted that beekeepers are often too anxious to tell of their successes, when, on the other hand, we

do not hear of the failures so frequently. A number have written me, suggesting that it would be a good thing for all concerned, for both producers and prospective beekeepers, if the occasional large crops produced were never published in the journals. There may be something in this, as there is no question but that some see "easy money" in these big reports, only to find out later that they have overlooked the reports of total failures that go with the calling just as surely as an occasional big yield.

* * *

CRUSTED SNOW DOES NO HARM IF THERE IS
VENTILATION AT THE TOP THROUGH
THE PACKING.

Some time ago I drove eight miles to the Altona apiary to bring home three barrels of cappings to be melted up. At this yard the snow always drifts over the hives more than at any of our other apiaries, owing to the hives being in an orchard surrounded on three sides by high evergreens. These trees catch the snow just enough to drop it over the hives when it is blown in the orchard, and as a rule the hives will have lots of the beautiful around and over them, when there will be little at the other places. On this trip I found conditions as described. As we had a heavy shower the night before the trip, followed by a cold snap, of course the snow had a very heavy crust over it. Just for curiosity I got a shovel and dug down to the entrances of four colonies, the snow being about on a level with the cases—some 30 inches deep. In front of each entrance there was a hole in the snow as large as my head, it having been melted away by the heat from the bees. I carefully lifted off the top of one case, turned back the packing, and rolled up one corner of the quilt. The bees were very quiet, so I left snow around the other cases, believing the bees were in better condition than they would be if I dug away all that snow with the crust on, for, no matter how careful I would have been, there would have been more or less disturbance, and bees would have left the hives, as the sun was shining brightly. But please bear in mind these colonies all have quilts over the frames, and there is an air-space between the packing and the tops of the outside cases. If sealed covers were over the bees, I should be afraid of snow over them; but with the other plan, it is an altogether different proposition.

CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.

"SHOOK" SWARMING AND SECTION HONEY.

Mr. G. W. Babcock, Brockport, N. Y., writes that he considers the "Doolittle plan" of shook swarming the best of any so far given to the public because by this plan all after-swarms are done away with, the new colony does well, and the colony in the parent hive on top can be absorbed by the new colony, or it can be set off, given a new queen, and thus made into a good stock colony for the next season. He says that he has obviated the only trouble which he himself and others have found with that plan, by using what he styles a "gauze board," the same being a thin board with an eight-inch-square hole through the center covered with wire screen. There is also a hole near the front end which will allow two or three bees to go down at a time to the colony below. This gauze board is for the purpose of allowing the heat from the colony below to come up into the brood from which the bees were shaken, now on top, so that there will be no chilling of the same, as some find to be the case where enameled cloth is used as was given in an article of mine written some fifteen years ago.

During the past I have used the old Langstroth honey-board which had six openings through it, to correspond to the openings in six honey-boxes, these openings being about one inch wide by five long, the same being covered with window-screen wire; and I have also used a rim of the same size of the hive with the whole surface covered with wire cloth, the same being put on top of a strong colony when it was to receive the beeless brood from another colony.*

Some of these boards were used with a hole in the end next to the entrance of the hive. Then, when working for section honey on the shook-swarming plan, the bees emerging from the brood above could run down through this hole and through the space made by wedging the sections together to the colony below, so that they could fly from the entrance when they go out for the first time to take their airing. This hole in the wire cloth was fitted with a

queen-cell protector, point down, so that it was easy for the bees from above to run down to the colony below. Many would not find their way back through the small hole in the lower end; and in this way, at the end of 24 days, the upper hive could be taken off with few bees and little honey, while these emerging bees from the brood above kept the colony in good strength for storing honey in the sections in much better strength than in case of a natural swarm, as with such swarm fully a third if not a half of the bees in the swarm would die of old age before any young bees would emerge to give strength to the colony.

How did it turn out? The sections were filled and completed as was expected; but, alas! the dirt and bits of cell cappings gnawed off by the emerging brood rattled down through the wire cloth and were mixed in with the sealing of the honey to such an extent that nice clover and basswood honey would not bring the price of good sections of buckwheat, and much more profit was obtained from prime swarms on the old plan than was secured from this third greater yield of miserable-looking sections.

Next I tried making wide frames with tight tops to hold the sections, hoping that enough heat might come up through the space made by the wedges so that no harm would come to the brood should a cold spell come on immediately after shaking. This kept the brood all right, but allowed so large a space for the bees to go up, as well as down, that when all the brood had emerged I had these brood-combs pretty well filled with honey, and the sections not so well advanced as by the old way.

After this I used the open-topped sections, and over these spread a sheet of enameled cloth, the same having a hole in it above the space made by the wedges, the cell protector being used point down, as was done when the wire cloth was used. This plan gave the best results of any thing up to that time, as much more heat would come up through this sheet of enameled cloth by way of the openings, where the open-top sections were used than was the case with the closed-top wide frames. But sometimes there was a loss of brood, as Mr. B. says.

Next I went about perfecting the plan as given in the book "Management of Outapiaries," which not only makes shook swarming a success, but puts every pound of honey, not consumed by the bees, in the sections, in good marketable shape.

* Here let me say that there is no "absolutely sure" plan of introducing a queen equal to turning her and her attendants loose in a hive of beeless brood so placed over a strong colony. A laying queen taken from one hive to another in the same apiary can generally be introduced by almost any plan; but a valuable queen which has come through the mails is too often missing when the majority of the so-called *safe* plans of introduction are used. Of course, in such introduction with beeless brood there should be no holes anywhere from this upper hive where a single bee can get either out or in. After six days this hive should be set on the stand it is to occupy.

GENERAL CORRESPONDENCE

MOVING BEES FROM OHIO TO FLORIDA AND BACK

BY H. H. ROOT

In this special number on moving bees a few remarks regarding our experiences in transporting them by rail and by boat on the way to Apalachicola, Florida, may be appropriate. The universal opinion of all those who have had any thing to do with moving bees is that it is the unexpected that always happens. So far as is possible, therefore, it is wise to make provision for taking care of unusual calamities—in other words, to expect the unexpected.

The illustrations in our December 15th issue show how we prepared the hives for the long journey. We use two screen boards in hot weather, one over the hive and the other under it. Being made of $\frac{7}{8}$ -inch cleats, there is nearly an inch under the frames and over an inch above. In cool weather an ordinary deep bottom-board with screened entrance may be used instead of the lower screen. However, it must be remembered that we locate the hives so that every one of them can be reached, and we provide plenty of water, as will be explained more fully later on, to keep down the temperature in case the bees are suffering.

During a conversation with Mr. C. H. Clute, of Palmetto, Florida, who, by the way, has done considerable moving of bees by rail, I found that he places a framework at least three inches deep under the brood-chambers, and he thinks that he gets better results by so doing, as any bees which may die *en route* fall down from the combs out of the way, and there is less danger of suffocation. This takes considerably more room, however, than the plan we use, and we have had such excellent results that we do not see



Fig. 1.—The bees in the freight house at Bainbridge, waiting to be loaded on the steamer.

how we could better it. The two screen boards securely held by crate staples prevent any possibility of bees getting out, and they afford plenty of room and ventilation.

After the difficulties under which we worked in hauling the hives out of four feet of snow when we got ready to load them last November, as reported in the December 15th issue, when the train with its car of bees finally started we fondly hoped that our troubles for this one trip might be over. Our troubles were over, but not so with Mr. Marchant, with the car. In this car we had tried a new



Fig. 2.—The steamer which carried the bees from Bainbridge to Randlett's Landing.



Fig. 3.—Loading the bees on the steamer.

plan; and instead of a solid framework from the door to the ends of the car to sup-

port the rows of hives, we made three separate tiers which were put together before being placed in the car, our idea being that, after the bees were unloaded, this framework could be taken out in three parts and used again when the bees were to be shipped north. The plan did not work well, however, for the framework was not as rigid as it should have been, and there was considerable trouble all along the way, owing to parts working loose. Mr. Marchant wrote afterward that his hands were bleeding most of the time owing to pounding his fingers when attempting to drive nails while the car was in motion. At Birmingham, Alabama, the staging gave way to such an extent that it became absolutely necessary to unload a large number of the colonies in the railroad yard, and make repairs. Unloading a car is no small task at any time; but in the midst of a busy railroad yard, with trains switching back and forth constantly, and with barely enough room for a man to stand between tracks, the problem becomes a serious one. However, room was finally made for the hives to be piled up while the staging was repaired, and, finally, when every thing was ready again, the last lap of the journey by rail was undertaken without further mishap. At Bainbridge, Georgia, the car was unloaded, and the colonies located on the floor of the freight-house, awaiting the steamer. The railroad freight-house being located very close to the river, there was no need of a transfer. Fig. 1 shows a part of the outfit in the freight-house, and Fig. 2 the two tracks for the



Fig. 4.—On the boat down the Apalachicola River, between Bainbridge and Randlett's Landing.

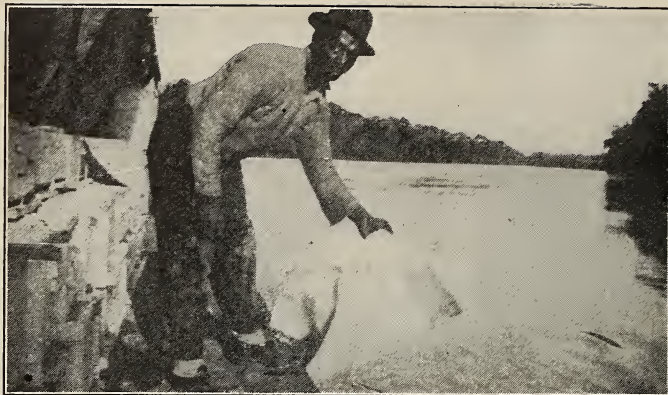


Fig. 5.—Wetting cloths to quiet the bees.

cars, which are pulled up and down by the cables, taking freight to and from the boat. Fig. 3 shows some of the negro deck hands carrying the hives on to the boat. This boat by the way, like many other river boats, is a stern-wheeler, the deck being flat, as shown in Fig. 4, without a railing, so that the work of loading and unloading is reduced to a minimum. The boat can be pushed up into the bank to make a landing anywhere, the great paddlewheel which drives it meanwhile remaining out in the deep water. It has been suggested by some that moving by steamer is a difficult proposition. This is true in case of large lake or ocean steamers in which the bees have to be placed down in a dark poorly ventilated hold; but there is little trouble in moving on one of these flat river boats. If the sun becomes too hot, the canvas side curtains or tarpaulin may be unrolled, as shown in Fig. 3, and if the bees show any signs of becoming overheated, cloths may be wet by dragging them in the water and placing them over the hives to keep down the temperature—Figs. 5 and 6.

Providing water to quiet the bees while being moved by rail is a much more difficult proposition. As stated in the editorial in our last issue, several barrels may be required for a carload of bees shipped, say, a thousand miles. We generally provide one (preferably two) barrels of water at the start, and we fill these at every opportunity, or as occasion demands.

We have tried many different schemes for wetting the bees. At first we used dippers, having the hives arranged so that the wire screen over the top of each one could be reached. This is a slow method, however, and much water is likely to be wasted; for if it is poured on the screen, the bees get too much at a time, and they are likely to suffer before more can be given. We also tried hand spray-pumps

which could be used to direct a spray of water at each screen. By adjusting the nozzle so that the water is carried in an exceedingly fine spray, almost in the form of vapor, there is not much danger of wasting the water, and a few strokes suffice to cause the whole screen to drip. This worked much better than a dipper; but Mr. Marchant prefers to get rolls of cloth which can be unrolled over the hives at will. The cloth, if dry, serves as a protection from the cold if the temperature falls pretty low; or during extremely hot weather, if the bees are suffering, it furnishes an excellent means of providing water, for the water may be quickly applied to the cloth, and the bees take it more slowly than in any other way, so that it does more good. The cold wet cloth over the screen is a great help when bees have to be shipped in extremely hot weather.

MOVING NUCLEI FROM RANDLETT'S LANDING TO FORT GADSKY.

Before shipping the bees north Mr. Marchant formed five hundred nuclei in special



Fig. 6.—Wet cloths over the bees on the boat.



Fig. 7.—Loading three-frame nuclei on the launch preparatory to the trip five miles up the river to the Nucleus yard. The cover picture for this issue shows the boat loaded and under way.

three-frame hives, moving them fifty at a time five miles up the river to a beautiful spot on the bank that is as level as a table. We shall have a view of this nucleus yard in *GLEANINGS* shortly, for it makes a beautiful picture. Fig. 7 shows the launch partly loaded with these three-frame nuclei. Our cover picture for this issue shows the launch with its load under way.

Of all the conveniences for moving bees—wagons, sleds, train, or boat—the boat, if of the river type shown in the photograph, is by far the most satisfactory. There is very little jar, nothing has to be done along the line of bracing the hives, and protection either from the heat or the cold can be

easily provided. Of course, moving by boat in rough water on a lake or on the ocean is an entirely different proposition.

Moving by rail is the most nerve-wearing of all; and yet, in spite of exasperating delays of trains that are sometimes unavoidable, more real serious accidents no doubt occur when bees are moved by wagon, for it takes a pretty good horse to keep his head if he happens to be stung a few times. We presume more *bees* are lost when moving by rail; but there are surely more accidents and narrow escapes from actual loss of life when moving by horse and wagon. In the latter instance, if in no other, it certainly pays to prepare for the unexpected.

MOVING IN NEW ZEALAND BY MOTOR TRUCK

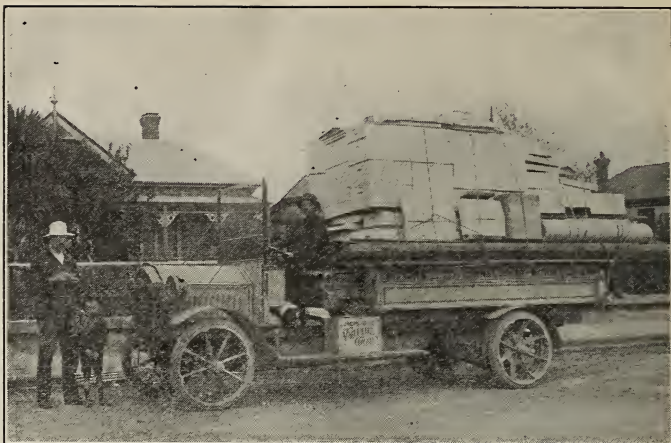
BY E. G. WARD

At the end of last season I owned 35 colonies of bees which were spread out in three locations. About half were at my home in Christchurch, and the remainder in two equal lots about five miles away. One season of this kind of management convinced me that it was not a paying proposition, so I decided to get the bees together in a good country district. I was fortunate in securing a location in a good clover district,

and I have a nice little apiary established. The bees were loaded in the bottom of a motor truck, and the supers, etc., piled on top. The tops of the hives were covered with a frame of wire cloth, and the entrances closed in with the same material full width. I had the misfortune to lose three of the best colonies by suffocation. These three colonies were in nine-frame hives, and very strong; and, although there was plenty

of air on top, it was evident that $\frac{3}{8}$ by the full width of the hive was not enough for the bottom.

The season has been rather below the average, and the weather very erratic. The flow was three weeks to a month later than usual in starting, and weather was not settled till the flow was past. Notwithstanding the drawbacks, I have secured a fair crop. I have increased from 31 to 68 colonies, including 7 or 8 swarms from other bees I had charge of; 14 of these are nuclei, and are in good shape for next season. I have extracted 3200 lbs. of honey, and secured about 5 dozen sections and reared about 40 queens by the Doolittle plan. The six best colonies gave 1121 lbs. of extracted honey. All the queens were introduced by the smoke method, and I am so well satisfied with it that I am not likely to try any other unless



E. G. Ward's bees and appliances loaded into an auto truck ready for a 30-mile trip to a new location.

it should be a very valuable queen, and in that case I would use hatching brood. Every queen was accepted; but in about 8 or 10 cases they were superseded after being in the hive about a fortnight. I use the small nucleus hive (three to Langstroth frame), and have had good results and no trouble.

Christchurch, N. Z.

FROM OLD TO NEW

A Glimpse Backward at Beekeeping in Palestine Years Ago, and Something about Modern Beekeeping in France Today; Moving Bees on Camels and on the Heads of Native Women

BY PH. J. BALDENSPERGER

[We feel sure that the older readers of GLEANINGS will not need an introduction to the writer of this article, Mr. Ph. J. Baldensperger; and we feel equally sure that our younger readers will not be sorry to be introduced to this interesting author, traveler, and beekeeper. He has been a constant reader of GLEANINGS for 33 years, and from 1880 to 1890 was a frequent contributor to our columns, from the Holy Land. His articles were always welcome and instructive. Since Mr. Baldensperger's residence in Nice, France, we have not heard so much from him; but this article leads us to believe that the pleasant acquaintance of years ago is about to be renewed; and if so, our readers are to be congratulated. The first photo represents the father of this interesting family. One brother was drowned at Jaffa, in the Mediterranean, July 26, 1891.—ED.]

Years ago, when father Langstroth tried his new bar-frame hives, and the beekeepers were getting away from old methods, my father owned hives of the most old-fashioned shapes, under archways in the castle above the Gardens of Solomon—the Ain Rimmon of the Bible—the modern Urtas, near Bethlehem. The Bedouin incursions forced the inhabitants of the exposed village to hide behind the walls of the Saracenic castle, where a soldier or two lived to guard the water, which ought to have been conducted to the Dome of the Rock, on the site of the Temple at Jerusalem. The pear-shaped hives, prepared in the potteries of Hebron or Jerusalem, were the only ones

then known to us. Born in the Holy Land, we knew nothing of the great strides made in more civilized countries till English and American travelers in the seventies showed us the new methods. Till then, beekeeping consisted in buying terra-cotta hives in the markets, gathering the swarms, and cutting out the honey. A terra-cotta smoker filled with manure, into which a burning coal was introduced, was used, the beekeeper blowing on the manure and on the bees. The hives, placed above each other, and plastered together under an arch to protect them against rain and sunshine, remained for ever so long a period—perhaps centuries—undisturbed.



Fig. 1.—The elder Baldensperger sitting on the arch over the old hives in Solomon's castle.

Our first apiaries, in the old castle of Solomon (Fig. 1), stuck up against the walls, had a passage behind for the extracting of honey. To see the bees at work, or to brush away reptiles and other vermin, and inspect them from the outside, we had to climb along the protruding stones of the castle to reach them—Fig. 2. Of course the old methods gave little returns compared with what we get now; but the expenses in the olden days were also reduced to almost nothing.

The arches and the castle were not private property, and no one knew to whom they belonged. Bees have been there for generations, and the owner of the bees was also owner of the whole. The old police agent, a Kurdish cavalryman, did not care nor know who was the real owner, and matters passed along in the most primitive ways. The different archways often had different owners; hives were bought and sold on the spot, and thus changed hands; but still one partner was always the same old man—one who had learned beekeeping in patriarchal ways, and was the patriarch of the whole fraternity. When an archway containing some 70 to 80 hives gave a return of 300 to 500 pounds of honey and about 50 pounds of wax, it was considered quite a good affair. The police agent received a few pounds of honey, and all was said and done till next year's harvest. The swarming season being only work, the police agent cared little for the proceedings. The highly fla-

vored thyme honey of the mountains of Judah (same as Hymettus honey) being from the same flowers, fetched about 85 cents for 6½ pounds. Expenses, except for the transportation of empty jars, and carrying away the filled ones, were greatly reduced, as bees were never moved, stuck in as they were for generations, and probably they will remain there as long as the owners, now fellahin of Bethlehem and Urtas, continue their old ways.

Our attention was called to new methods by the *British Bee Journal*, but was further developed by GLEANINGS about 1880, and since then GLEANINGS and Mr. Root's articles have been in our homes, whether in Palestine, Algeria, or France; also smokers, extractors, comb-foundation machines, either direct or indirect, by way of Paris, are still the only ones used, and will be, till better ones can be produced.

When the bar-frames were adopted the arches were abandoned to the fellahin, and field apiculture was introduced by the Baldensperger brothers. As roads were yet scarce, or at all events led only along the highways to Jerusalem, Jaffa, Bethlehem, Hebron, etc., bees were carried to and fro on camelback. Often the indolent drivers had to be looked for at the fairs in some small town, where also terra-cotta hives were for sale. But the first transportations of movable and bar-frame hives were effected on the heads of women who were also recruited in the market. The first move,



Fig. 2.—Henry Baldensperger (a son of the writer) climbing along the old wall to see the bees.

over thirty years ago, from Ramleh to Jaffa, to the orange-groves, was carried out by women who carried the heavy hives ten miles on their heads.* Each woman was paid 10 cents for the work. Later on, camels were hired, and two packages of four hives were carried by each animal, amounting to 500 or 600 lbs. in weight. As a camel goes slowly (about $2\frac{1}{2}$ miles an hour) they were paid between 45 and 85 cts. per night, as it was not only dangerous for man and beast to travel by day, but also bad for the bees, they being in danger of being smothered. Some adventures were related in GLEANINGS away back in the '80's.

When the summer was over, the bees were carried back to the plains in the same way they were taken up to Judea; and the honey in tins holding about 50 pounds was also loaded on camelback. Hives of the old system rendered 5 to 6 lbs. of honey; but the new hives often gave over 100 pounds each, so not only many were scared by the enormous amounts of honey which were extracted, recalling the well-deserved title of a "land flowing with milk and honey," but officials laid higher taxes on hives, and bee-keeping was on the point of becoming paralyzed; and, moreover, the honey market was as yet very unsettled. Small quantities could still be sold at the old price of 85 cts. a bottle, but thousands of pounds found no buyers. All innovations are difficult to introduce; but more so in a primitive coun-

try where the retrograde masses looked on the quantities produced with great mistrust. Thus for months and months the best honey imaginable lay there, and prospects were dreary—no hope for getting any thing in return for the work and expense laid out. With great patience and much sacrifice a market was opened, when some of us resolved not to continue the struggle, and decided to leave the country.

The orange blossom in Jaffa and the prickly pear gave the first harvest in April and May. Then the bees left for the mountains, Fig. 4.

In those happy days for the keeping of bees no kind of bee-disease was known to us, and this greatly simplified the work, provided the queens laid and were in good condition. Wax-moths attacked very vigorously the empty comb; but sulphur fumes during the hot months protected the precious combs. Hornets may be said to have been the great pest from August to the first rains, October and November, when the rains drowned them in their underground nests. If the rains were too late the damage was great.

For many of the above reasons, and some additional ones, I moved to France, where a part of the Oriental plagues have disappeared; but civilization has also its plague. Here are no hornets nor slow camels tramping $2\frac{1}{2}$ miles an hour—no hadjiis wishing to kneel down and pray when work was



Fig. 3.—Moving bees in Palestine. One of the camels carrying a load of hives and the other a load of honey.

most pressing; but other pests spring up. Instead of the camel the hives are set on carts, Fig. 5, and the bees travel from Nice to the Alps and back again at a greater speed. Honey finds a more ready market, but here another enemy has to be fought. In Mohammedan countries no fermented drinks are allowed. Honey is more freely taken; but here, wine and other drinks take the place of that most precious gift of natural sweet, presented naturally. Our best patrons are vegetarians and anti-alcohol societies; and as an outcome of the stupid belief that wine gives strength, our bees are persecuted wherever there are vineyards. Peasants are very keen for their interests against every other man; but when a bee hovers over a ripe grape or over injured berries to suck the sweet liquid, exaggeration comes in, and our bees are accused of ruining the whole vineyard. No lectures or demonstrations can be strong enough to reassure the ignorant and show them the folly of their theories. They have no other idea of the natural history of the bee than that their wine production is diminished by the presence of an apiary in the vicinity. I have seen bees crawling about the uninjured

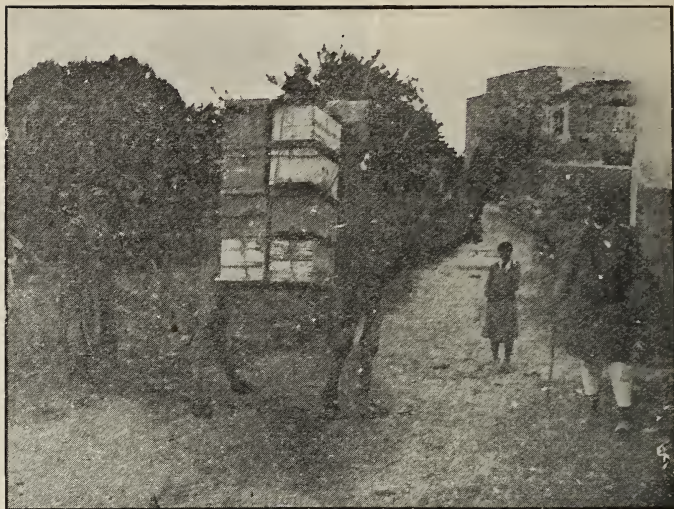


Fig. 4.—Camel carrying a load of bees through the lanes of Jaffa; gardens lined with prickly pears (cactus), and orange-trees behind.

fruit for weeks, yet never touching a berry; but what is that to them? Fertilization of fruit-trees by bees and the like is looked on as a fable or at least not worth the trouble. So in spite of all advantages our hardships are still great, and we look for the wildest sites, "where every prospect pleases," up in the Alps, and there we pick out the best even places to set our hives here and there among the brushwood, stones, and other things, Fig. 6. Very often it is in places where it is so steep you would be tempted "to have to saw off one leg and splice it to the other" (see GLEANINGS, cover, Sept. 1, 1913).

Though some beekeepers can handle their bees with very little smoke, I use plenty of it with a good "Conqueror" smoker, and am sure to be left alone by the bees, as now for years I have not taken a veil to handle the hundreds of colonies spread about in many out-apiaries in the Alps. I believe in plenty of smoke, so I take olive twigs or fig wood, or any that happens to be near that is not obnoxious to the bees, and has no bad odor for me.

We can not boast of being rid of that most

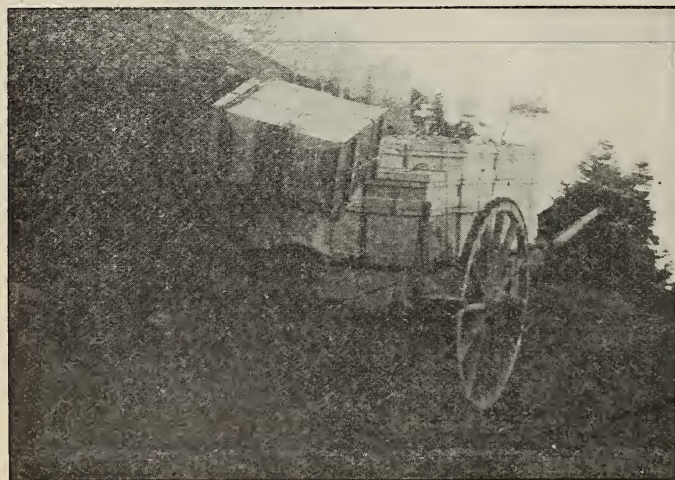


Fig. 5.—Loading hives on a cart in France.



Fig. 6.—The Baldensperger apiary among the olive-trees in the Alps.

hideous of bee diseases—foul brood. Many “fixists” (so we call the old-hive apiarists) are about us; and though by some writers the notion has been spread that the movable-frame hives are carriers of disease, this is true for only the negligent beekeeper. I know well that the contrary is true. For me, “movable” beekeepers are at least very careful, and we can examine not only our hives but every frame—every cell—and put a stop to the pest; at least, every careful beekeeper does it. At the first visit in spring, every frame is lifted out and every cell containing brood is examined. In its earlier stage it is very easy to fight, provided every affected larva is attended to—that is, a liquid or solid of some kind is strewn over the diseased colony, which enables the bees to get rid of it without danger of spreading the evil. By the careful beekeeper, the European or American foul brood can be handled without danger from the next colony, even though you go to work at it after examining the sick one.

Some apiaries are miles and miles distant from the central apiary, itself (in summer) miles away from our home in Nice. In these out-apiaries a bee-tent is set up, and extractors and honey-cans are carried there, Fig. 7. As the tins contain 60 to 120 lbs. of honey, it requires strong and surefooted

mountaineers to carry them down the declivity on their broad shoulders till the car carrying them to the central station is reached.

When honey was first put on the market in earthenware jars and without cases, our ancestors were still proud of their products. Progress has brought clear glass jars—has taught us to manipulate with great care, and to seek the customer sometimes with all kinds of persuasive talks. Staple prices have gone up; life is dearer; yet with all this our honey fetches only a few cents more per bottle than it did—certainly not sufficient to pay extra expenses.

Nice, France.

[We wonder what the migratory beekeepers of to-day would say if they could transport their bees over the country at the rate of only $2\frac{1}{2}$ miles an hour; yet that is the average speed of a camel with a load, not including the stops. Our fast freights sometimes reach a speed of from 40 to 50 miles an hour—twenty times as fast as the camel; but, nevertheless, we fancy that the writer of the following article, when obliged to wait so long for trains, would have been glad to accept camels or any other kind of animals to help him out.—Ed.]

A DISASTROUS EXPERIENCE IN MOVING A CAR OF BEES

A Story of Bad Luck

BY H. F. STRANG

I have noticed accounts of shipments of carloads of bees where everything went off like clockwork; for example, Holtermann's shipment from Liberty, Mo., to Canada; also the Root Company's shipments from Florida to Ohio, and Ahler's shipments from his home at West Bend, Wis., to Louisiana. In view of these reports of success I thought perhaps a report of an unsuccessful shipment by rail, where everything went wrong from start to finish, might interest the reader.

I have kept from one to 100 colonies of bees for the past 30 years; but owing to poor health for a good many years I haven't engaged extensively in the work.

I had been advised by numerous doctors to try the mountainous section of the South; and as I had spent some time in southwest Missouri and Arkansas when I was a young man, I naturally turned that way.

In August, 1911, I left my home in Michigan for a trip in the south; and finally, after looking over a lot of territory, I decided to locate in the southwest part of Missouri a little way from the Arkansas line on Flat Creek, in the Ozark Mountains.

I went home and got ready; but owing to bad weather I couldn't get ready to start before Nov. 15. When all was ready I had to wait nearly a week, owing to sickness. Finally I got the bees loaded, and left our

station on the Pere Marquette Railroad about 42 miles from Grand Junction on Nov. 21 at 2:30 P. M. We had to be pulled to Greenville by the local, as where I loaded was just a branch.

We reached Greenville at 4:30 P. M., and were switched on the Y for the through freight to pick us up; but the best-laid plans of men go wrong sometimes. The through freight, when it got within about ten miles of Greenville, ran into some kind of an obstruction on the track, wrecked the engine, piled part of the train in the ditch, tore up some track, and they told us it would be 12 hours at least before we could get away from there. Instead of 12 hours, it was 38. Then they took us out to a junction on another branch, 20 miles east of Grand Rapids, and we were there ten hours before we could get away. So it was just 52 hours from the time I left my home station until we got to



Fig. 7.—Extracting tent at one of the Baldensperger apiaries among the Alps in France.

Grand Rapids. How is that for 42 miles? In about an hour we left the Pere Marquette yards for Chicago.

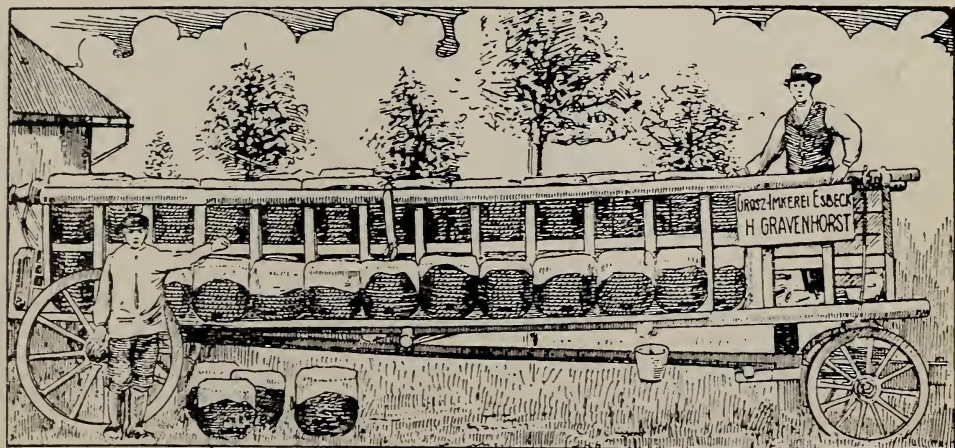
I will say right here, before I proceed further, for fear some one will say I ought to have gotten busy with the telephone, that I was a railroad man myself in my younger days, and I believe that I did every thing possible all along my trip to hurry matters. In fact, I met several of my old chums on my journey who did every thing they could to hurry the trip. Getting out of Grand Rapids in just one hour shows that I left no stone unturned to get out at the first opportunity.

When we arrived in Chicago my first mistake, and my only one, showed up. Nearly all (or all) railroad laws state that each car of bees must be accompanied by an attendant bearing a first-class ticket to place of destination; and the agent at my loading station told me I could put a cow or horse in my car if I so wished, and the railroad would have to give me a pass. I had a very choice Jersey heifer which I wanted to take with me, so I put her in; and the very first thing they asked me when I arrived at Chicago was, "Is your cow inspected?" as the laws of the State I was going into forbade the entrance of any live stock without inspection. I telephoned over to the government inspecting office, and got word that a man would be on hand to begin operations at 1 P. M. At 9:30 the next morning he arrived and started the test for tuberculosis. It takes 24 hours to carry it through, so I was in Chicago just 48 hours. If I had known, I could have had her inspected before I left home, as there was a neighbor of mine who was a deputy State inspector for Michigan.

At 11 A. M. they took my car over to the Wabash yards, and I hardly waited for it to stop and find where it would be switched before I was on the way to the transfer office to have my papers transferred. I had billed my car by the Wabash from Chicago to East St. Louis, and from there to destination by Missouri Pacific Railroad. When I arrived at the Wabash office in Chicago, I was informed they had just received news of a washout and bad wreck on their freight line near East St. Louis, and it would be 24 hours, and may be longer, before they could get a train through.

They consulted maps as to my destination, and told me they could take me to Kansas City and transfer me there to the Missouri Pacific, as they said, and showed me that the Missouri Pacific would take me to within about 30 miles of Kansas City before they took me south to my destination. So they changed my papers to read by Kansas City. I hurried over to the yardmaster's office, and received the pleasant intelligence that a train couldn't leave till an engine arrived, as they had had several wrecks lately, and were badly hampered for motor power. He thought they could put a train out by 4 P. M.; but in place of 4 P. M. it was 1:30 A. M. when we finally left the windy city.

About two hours before we left Chicago it began to snow and blow; and the further south we went the harder it snowed and blew; and in place of being the customary three-days' storm it was three times three, and then some. Well, we kept going until we finally got out of Illinois across the Mississippi River into north Missouri; but there wasn't a division point that we got out of in less than 12 hours, and in one place I remember it was 16 hours before we



Migratory beekeeping with straw hives as practiced by H. Gravenhorst.—From *Der Praktische Imker*.



Fig. 1.—D. L. Woodward's home apiary where the colonies are set before being moved to the outyards.

finally got away. When we reached Moberly, Mo., the last division east of Kansas City, it was 9 in the forenoon. They told me they were going to try to start a train for Kansas City at 11:30 A. M.; but 11:30 came, and still no available engine. The Government inspectors had condemned every engine in the roundhouse but one, which had to try to get the mail-train through.

That night some engines got in off the road, so at 3:30 A. M. they started us out with a train crew that had been 12 hours on duty when we left the yards. They got us out about 20 miles west of Moberly to a little siding, and stated that there would be another crew on a special engine to relieve them inside of half an hour. It was six hours before they arrived. They had been on duty eight hours, as they carried an extra engine crew. They put both engines on the train, which at that time comprised two emigrant cars, four cars of live stock, a few cars of through freight, and my car of bees, etc. They finally plowed their way through to Dresser Junction, 30 miles east of Kansas City; then we went on a siding there with all crews tied up on time limit. Extra crews were to come from Kansas City in half an hour; but when the extra engine and snow-plow got within ten miles of us, the engine broke and returned to Kansas City for repairs; but the snow-plow came on through; and as there was a local freight tied up there in the drifts, and as

the stockyard men were keeping the wires good and hot about the cars of live stock, they put the local engine on our train, cut out every thing except cars of live stock and emigrant cars and my car, and started for Kansas City in the drifts. We went to within about ten miles and met another extra coming after us.

We reached Kansas City at 9:00 P. M., with the temperature 9 below zero, and lacking just $4\frac{1}{2}$ hours of 9 days between Kansas City and Chicago.

I immediately hunted up the yardmaster, and he told me he would have my car taken to the Missouri Pacific yard by 11, sure. It was about 8:30 A. M. next morning before they got my car in the Missouri Pacific yards, and at 1:30 P. M. they started south with my cars in a train of through freight, and I arrived at my destination at 6:45 A. M., 227 miles south of Kansas City. The ground there was not frozen. There was not even any frost in the air.

By 8 o'clock the teams began to arrive to take me to my destination, 16 miles over rough mountainous roads. In place of there being five wagons with springs for the bees, only one of them had springs, so I hunted up some baled straw, put a good bed of straw under the hives, got loaded up, and arrived at our destination just a little before 12 midnight, with 9 loads of bees. A second trip was made for the other four loads on Monday. It was Saturday when I



Fig. 2.—Outyard No. 2, near enough to the buckwheat so that it does not have to be moved for that flow.

arrived. They made thirteen loads of the stuff we loaded at the other end on to four loads. I had notified the parties who were to see to getting the teams by telephone from Kansas City when I left there. When I finally got them unloaded I found over a third of them dead, and the rest might as well have been; for all through that storm, of course, every bee that broke the cluster was a dead one.

But, thanks to Mr. Ahler's schooling, in all the shunting (and, of course, rough usage they passed through) never a hive left its place an inch, nor was a cover loosened, nor did a thing of the kind go wrong. That storm, as nearly as I could tell by reading and talking with others, passed but

little if any south of the Missouri River. The bees that were left had a good flight the third day after I got them to their destination. It stormed until the snow was 18 inches on a level, and we had eight nights when the temperature went from 8 to 17 below every night. The old-timers claimed that we had the coldest winter and the most snow that had been experienced for years.

Instead of natural pollen in February it was the last of March before we had any; and then, to cap the climax, we had the driest summer here they had had for 25 years. The bees got hardly a bit of white honey, and the source of the fall flow all dried, so I have had to feed.

Clio, Mo.

MIGRATORY BEEKEEPING IN NEW YORK STATE

An Auto Truck for Moving to Buckwheat Locations

BY D. L. WOODWARD

As I practice migratory beekeeping, no doubt some of the readers of GLEANINGS will be interested to learn the way in which I manipulate my apiaries.

As I bring all of my bees home to winter in my house cellar, I will start in the spring with the bees all at the home yard, Fig. 1. About half of my bees are shown in this photo, the rest being set out near the cellar. to remain there until time to remove them

to the outyards. The photo was taken the day after the first supers were put on. If I could have waited until later I could have shown more supers, or I might have carried out several hundred empty supers and placed them on the hives while the pictures were being taken; but I am not so fond of work as that.

In this locality we take our bees from the cellar from the 1st to the 10th of April.

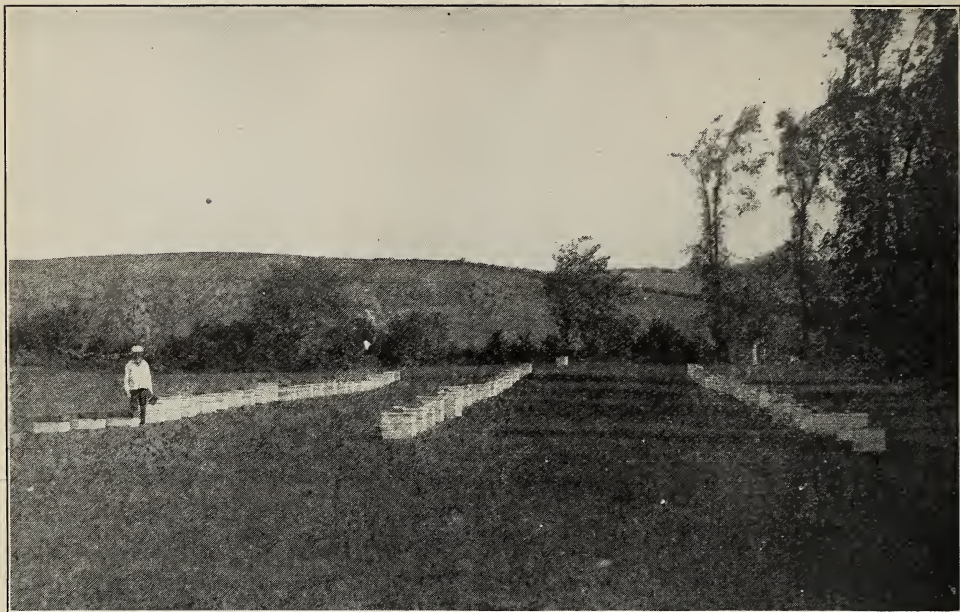


Fig. 3.—D. L. Woodward's bees moved to their temporary location to catch the buckwheat honey-flow. Hundreds of acres of buckwheat surround the yard in every direction.

Those that I expect to leave at the home yard I set on permanent stands; the rest, which are to be moved, are set near the cellar, to save steps.

As soon as the weather conditions are favorable we go through all the colonies, clipping the young queens and making out new record-cards. These cards or tags are made of boards sent out with new hives for division-boards; and as we do not use many of these division-boards we make use of the lumber by cutting the boards in pieces four inches long for use as record-tags. These tags are tacked on the rear right-hand corner of the hive, and the record is kept with a blue leadpencil. The whole season's record can be kept on this tag by writing compactly and abbreviating where possible. Some beekeepers I have noticed keep a record on a similar tag, or piece of cardboard, but place it under the cover of the hive; but this necessitates removing the cover whenever one wishes to look at the record; and, besides, there is a great chance of the tag being mislaid or lost. Some others prefer to keep their records in a book; but that is cumbersome and slow. With my method the record is always at hand, and after a while one learns to know the condition of each colony in the yard almost by heart.

The first record to be put on the new tag is the age of the queen. This is taken from

the old tag before destroying it (of course the tags will become weather-beaten during a season, and the writing will be rather indistinct, and on this account we prefer to make out new tags each spring. The first record would read "Q 1912 C," C meaning clipped. If a later reading on the old tag states that the bees have swarmed, then we know that there must be a young queen there to be clipped. If there is no record of a swarm we skip it, leaving it to be looked after when all the young queens are clipped. After the young queens are clipped we proceed to go through those that have been skipped, in order to ascertain if the old queen has been superseded or not. At this time we also note on the tag the condition of the colony, whether "*strong*," "*medium*," or "*weak*." Later in the season other things are recorded as they come along, such as "Swarmed J. 7," "Queenless Jy 1," or "Short of Stores Oct. 1."

All this work we like to do while the bees are at the home yard; but it is not always possible to do so, as we want to get the bees moved to the outyards, and get the supers on before the swarming fever is started, as we find from experience that it goes a long way toward preventing swarming. About May 15th we move the bees to the outyards, after first moving the supers there ready to be put on when the hives are opened up.

After the white-honey flow is over, which

is about July 20, we move the honey home to extract. By this time buckwheat is coming into bloom, and we start at once to move the bees to the buckwheat locality, which is about six miles from our home yard, leaving our white honey to be extracted after the bees are moved. In order to do this, one must have plenty of supers with drawn combs. Fig. 3 shows the bees in their temporary yard, with hundreds of acres of buckwheat in every direction. In the back row there are three hives with the moving screens still on them. These screens are made in the shape of a telescope cover, with an inch-square cleat on all four sides of the inside of the rim, and rest on the upper edge of the hive, the top being covered with wire screen. The entrances are closed tight with a strip of board dropped into metal slots which are nailed to each side of the bottom-board. With our equipment it is not much of a trick to move bees, as our hives are all ten-frame Langstroth, well painted and sound, so that we are never troubled with leaks. Our truck platform was built to carry 33 hives which fit snugly, so that there is no jostling on the road.

Yard No. 2 is located at the edge of the buckwheat belt, so that they do not have to be moved for the buckwheat-honey flow.

During the fore part of October the colonies are all moved back home, and the season's work is finished as far as the bees are concerned.

In 1912 I purchased a 45-horse-power Fiat chain-driven auto and converted it into a truck to haul my bees and honey. (See page 213, April 1, 1913.) For that purpose it proved quite satisfactory, but rather expensive. It carried the bees without any jarring to speak of, and did it quickly. For light work it proved too expensive, so in 1913 I purchased a small car for running about to outyards, etc., and for retailing honey. I had a covered box built to fit on behind the seats which will hold 500 lbs. of honey put up in pails and bottles. This is about all that I can sell on the public market at Albany during market hours. Here I make such a display as is shown in Fig. 4. The beauty of selling on a market of this kind is that there is no delivering to speak of, as each customer carries his honey home.



Fig. 4.—The light car used for selling honey at the public market in Albany.

I use a five-pound friction-top pail lithographed with a red background, with gold and black lettering. I find that such a pail is a great advertisement. Ofttimes people will send to the market by a neighbor or their children for a pail of honey, with the instructions to be sure to get it from the man with the red pails. I also use glass bottles holding six ounces, which retail for ten cents, and pint jars for which I get 25 cents. The pails retail for 65 cents.

I have educated my trade to take my honey in pails granulated, but I always have it liquefied in the glass, as it shows off to so much better advantage. I would advise all producers of honey to encourage the use of honey in the granulated state, by all means.

Clarksville, N. Y.

GETTING STUCK WITH A LOAD OF BEES IN LOUISIANA

BY G. FRANK PEASE

Some time ago I had occasion to take an automobile load of bees 21 miles to another location in Louisiana. There were 56 colonies in the load, and they were moved be-

fore the clay roads became dry after hard rains. The truck went down at one place, and we had three hours of hard work to get the wheels planked up so we could get out:



Moving 56 colonies by auto truck in Louisiana.

but we made the trip successfully, and the bees soon settled down to work.

Although it was in the latter part of September we hauled the honey also in this truck. There were two loads of over 5000 lbs. each. This honey was so thick that it would hardly run through a large molasses-faucet, even with a hole in the top for air. I had an old valve from an automobile tire that just fitted in the air-hole, so I took the air-pump and pumped in a pressure of air, and in this way the honey was forced out as fast as it could be handled. The honey is so thick that a chicken nearly full-grown which jumped into a pan partly full of dirty

honey could not get out, although only her feet were covered.

A good way to paste labels, that beats a brush all hollow, is to take a plate of window glass and put a small spoonful of paste on it. Place a label on the paste and draw it along the glass and over the edge, which scrapes off all surplus paste, and makes the label adhere tightly. Several labels can be pasted with each little dip of paste, and as quickly as one can draw the labels over the glass, for the pressure holds the label tight to the glass as it is drawn.

Marshall, Mich.

SHUTTING OUT THE OLD FIELD BEES BEFORE MOVING

BY THEO. LEE

The plan of shipping bees to the South for wintering and for increase has been tried by a few Utah beekeepers. A Northern Utah beeman wintered some of his bees in Southern Nevada in the winter of 1912, and shipped them back in mid-summer,

1913. In shipping them back home, however, this beeman did one thing which it seemed to me is especially worth recording. Empty supers with wire gauze were nailed on the top and bottom of each hive. The bottom supers were nailed on in mid-day

while the old bees were in the field. This, of course, left only young bees and brood in the hives to be shipped.

He had taken 250 colonies of bees to Moapa, Nev., in the fall of 1912. He made 275 nuclei, raising his own queens. He placed the nuclei by the side of the old colonies and removed the frames with young bees and brood from the old colonies, and left the old queen and field-bees on the old stand. He had a shallow super-rim with wire gauze nailed on top, and a similar one under the bottom. He left a bee-space between the bottom super and hive till ready

to ship, and then slipped the hive so as to close the entrance. He nailed the supers on and shipped to Southern Utah. They came through in a cattle-car, reaching Utah July 1, 1913. There was practically no loss of bees, and they made a fine record for the rest of the summer. They did better than bees shipped from Southern California at the same time and to the same locality.

It is the old bees that make trouble on the way, and most of them do not survive the journey.

Spanish Fork, Utah.

CAN BEES ON LOOSE HANGING FRAMES BE MOVED WITHOUT FASTENING THE FRAMES?

BY E. S. MILES

I once supposed that loose hanging frames would require secure fastening ere they could be safely hauled around by wagon, and that belief came very near making me a user of the Hoffman frame. I soon found, however, that, for this locality, the Hoffman frame is almost immovable except on hot days, so I went back to the loose hanging frames, thinking it better to have a frame I could use, even if I had to fasten them some way, if it became necessary to move. Well, when I came to move, as most people do some time in life, I had about 185 colonies on loose hanging frames. I had about 25 miles to haul them by wagon, and I expected it to be a great job.

I myself had to go March 1, leaving the bees to move later when time to set them from the cellar. This necessitated a drive of 25 miles to set the bees out; and as we thought best to let them have a fly once, we had to drive up one afternoon and set out enough for two loads. (The people who bought the place were afraid of bees, and did not want us to set them all out at once.) We found it took the next day to get them out, fasten the frames and have the two loads ready to load in the evening so we could start back early on the morning of the second day. It thus took us about 2½ days to make a trip and get two loads which consisted of about 70 to 80 colonies. In order to fasten the frames we bent or kinked some stiff wire which we inserted between the bottom-bars, tipping the hive up from the bottom to do it, an assistant smoking the bees up out of the way so that it held the bottom of the frames from swinging. This kinked wire rested on the bottom-board, with each end bent up to spring against the sides of the hive. This

held the bottoms of the frames nicely, and the tops we stayed by a ¼-inch strip of board across each end, a small nail being shoved through it into the top-bar of each frame. This worked all right, but it was also back-breaking work, and took about half a day to fasten up 75 to 80 colonies. We might have considered it a success, except that circumstances rather forced us to cut some corners.

By the time the roads were good for hauling, it was getting rather late for setting bees out; and as we were not there we could not open the cellars at night to ventilate; and so when we went on our second trip we found the bees becoming very uneasy. The cellars were warming up; and as it was warm, and the soft maples in full bloom we decided to set the bees all out that trip.

The next day was warm, and there was a strong south wind so that it was not fit to set bees out. However, we felt it necessary under the circumstances to get them out of the cellars, so we set the rest out any way. The wind and consequent drifting of the bees made us longer in putting them out, so it was too late to fasten frames unless we waited over one day for the purpose. The weather looked threatening, so we determined to try two loads without fastening the frames. We did this with considerable foreboding, and only the fear of getting held away from home by bad weather, and having to haul over bad roads, and the desire of the people to have us get the bees away, caused us to take what we considered at that time grave risks from loose combs. Imagine our agreeable surprise, however, on unloading at home, to find *no* injury whatever to most of the combs. Those in

the lighter and older hives had not moved at all to speak of; and the few heavier and newer frames that slid over to one side of the hive did no injury at all. The bees simply clustered at the empty side. One hive we overlooked till fruit-bloom, and found the combs over to one side; yet that colony was thriving, and had about as much brood as any other. We moved three loads this way on common hayracks, with a little hay under the hives, and lost no bees, broke no combs, and no queen was killed. People around here said, "Those people will ruin their bees hauling them so far. The combs will all break down."

That was seven years ago; and since then we have kept outyards, moving bees each spring and fall.

Now, if the manufacturer of hives could see the hives with combs in as the farmer with a few hives invariably has them, I don't know whether he would attach much importance to the *kind* of frames. It seems to me he *might* decide against frames of any kind. I have picked up quite a lot of hives from farmers through the country, in the last 20 years, and I have yet to find my *first* one with straight combs *built* in the frames. I have found only one or two that were enough in the frames to enable me on a hot day to pry around so as to get the combs

out at all, and they had to go back just as they came out, being too crooked to be interchangeable. Last year I bought one with the dummy in the middle of the brood-chamber and four frames on *each side* of it!

I am giving my experiences with loose frames as above for what it may be worth to the beginner. If you think you must have self-spacing frames to haul by wagon, in any locality where propolis is reasonably plentiful, you are mistaken; and I consider the loose hanging frame much more desirable for real practical honey production, where time and labor must be used to best advantage, and it is hardly necessary to add that we never think of fastening a frame, and have never had a dollar's damage from moving. We usually lift the covers, especially of the heavy hives, after moving; and if the frames are slid around a little we straighten them up; but it does not injure brood, bees, nor queen to have them do so. We have moved bees twice in August, when propolis was thinnest, without fastening frames, and no injurious results followed. I would not consider a self-spacer necessary for any wagon-hauling reasonable distances or on reasonably good roads. Our hives are the regular dovetailed, with metal rabbits.

Dunlap, Iowa.

SOME TRIALS AND TRIUMPHS IN MOVING BEES

BY RAY C. WILCOX

My first experience with bees was during the summer of 1906, when I attempted to care for five colonies owned by a neighbor who was more afraid of them than I. The neighbor had a smoker, a pair of gloves, and a veil, as well as a few empty frame hives for use at "swarming time." I was not just sure when "swarming time" was, but had heard that bees swarm, so I cleaned up the hives and waited. At last a fine swarm issued, and settled on a large limb of a valuable apple-tree. The owner declared that the limb must not be cut, and that the bees would have to go. Thereupon I improvised a swarm-catcher in the shape of a large pail, which I held under the cluster while the owner gave the limb a vigorous shake. Most of the bees fell into the pail and were immediately thrown on a cloth in front of the prepared hive which they entered.

If more swarms issued they escaped unseen; but the bees interested me; and, besides, gave a neat surplus of honey, considering the effort expended. I decided that

I must have some bees of my own, and that decision was developed into a resolution when I found that one of my most intimate friends was interested in bee culture, and had obtained several copies of *GLEANINGS*. Some of the latter I borrowed, and forthwith became a real beginner.

In April, 1907, I bought four of the colonies I had tended the previous summer. As they were less than half a mile from my home I had no great difficulty in moving them, although at the time it seemed like a great undertaking. In reality it proved quite simple. I closed the entrances one evening with screen wire, and placed the hives in a spring wagon. A few minutes later they were safely placed on their new stands.

As much of my time when not in school was taken up on the farm of my father, my growth as a beekeeper and the increase of the bees were slow; but by the spring of 1910 I had accumulated about 20 colonies. My friend referred to above had a few more. As we were but a few miles from a good buckwheat location I proposed that we

move our best colonies to the better range after the clover flow had passed at home. Accordingly, in early August I selected ten of my best colonies, and, with the help of my friend, screened up the entrances, which were $\frac{1}{2}$ by 12 inches. This was done in the evening, as soon as the bees had gone inside. By nine o'clock we had loaded the hives which had no ventilation except an air-space above, composed of a super of empty sections. By midnight we had placed them on their new stands without mishap, and they seemed to suffer no harm from their confinement. The night was quite cool, however, and may have saved trouble.

My friend's bees were moved in practically the same way except that we started early in the morning and reached our destination before the sun gave much warmth.

The following year my father sold his farm and moved to another, 35 miles away. I was allowed to remain at the old home to finish my course in preparatory school; and, judging from my experience related above that my 30 colonies of bees could be safely moved in August, I left them until that time.

The friend agreed to help me make the trip as before, which we thought would be accomplished without difficulty, so one day about the first of August, when the weather was very warm, I drove to my old home and stayed with my chum until the next evening, when, after many unforeseen delays, we got the bees loaded, and a little before midnight started on our long drive. From first to last we seemed to have trouble. I know now that many of our annoyances could have been avoided by proper management; but even so I could hardly have made the trip without loss. Morning found us only little over half way home. We decided to drive into a field and unload when we found a convenient chance; but before the chance came, bees began to escape from some of my makeshift hives, and ere long the horses were stung. One was a spirited black, which came near making a deal of trouble. However, my friend, who was driving at the

time, finally succeeded in slipping the draw-bolt and getting the plunging team away from the wagon. The horses were soon stabled in a barn; but the load of bees sat all day by the roadside in the hot sun. We did not get the bees unloaded until the next day at noon. I presume all would have been lost had it not rained, thus cooling the air on our second night's drive. As it was, only sixteen of the weakest colonies survived. A complete account of this trip will be found in *GLEANINGS* for Nov. 1, 1912, page 688. That was written by my companion, and gives a good idea of our troubles on the way. It was surely an experience that I shall never forget; and whenever I think of it I feel thankful to have escaped with as little loss as I did.

The season following my disastrous "move" was spent with a professional beekeeper, and I should like to say to any one who considers making a vocation of apiculture that there is no better training to be had than a season with a successful apiarist who gives the business end of the work the most emphasis. The next spring, 1913, I decided to begin beekeeping for myself in earnest, so I purchased the only available bees, which were twenty miles away. These bees were in dilapidated box hives; but they were moved late in April without trouble. I started on the trip at about nine o'clock, and arrived at the beeyard in the afternoon. The horses were stabled, given a good feed, and allowed to rest until 9 p. m., when I was ready to start. The bees were confined by placing each hive in a large sack of burlap which was drawn tight at the entrance, so scarcely any bees escaped. The return trip was made before daybreak, and the hives placed on their stands before the sun was up.

While I anticipate more experiences in moving bees, I feel that one can never use too much caution in what is, at best, a hazardous task.

Spencer, N. Y.

A GOOD HIVE COVER

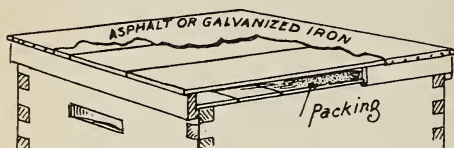
BY C. F. BENDER

I am not much of an inventor, finding it easier, usually, to adopt the inventions of others. But, after trying the different styles of hive-covers that could be bought, I found it necessary to invent several before I made one that suited me.

I want a cover, above all things, to be water-tight. It ought to lie flat on the hive. For this climate I think it is important to

have a non-conducting cover, as far as possible—one that will hold the warmth of the cluster in the spring, and that will keep the super warm during a fall honey-flow. If one winters outdoors, a warm cover is worth the extra cost for one winter alone. I wintered outdoors for several years, with no packing except that contained in the covers. It is also important to have one that will

last a good many years without too frequent painting. Lightness is a desirable feature, but difficult to get if all the other requirements are filled.



The cover I am about to describe fills the bill completely except as to lightness. Those for eight-frame hives weigh 8 lbs. as I make them. I make a rim of $\frac{7}{8}$ -inch cypress boards $1\frac{1}{2}$ inches deep, the same width as the hive, and $1\frac{1}{4}$ inches longer. The end cleats of this rim are made two inches wide, rabbeted on one edge $\frac{3}{8} \times \frac{7}{8}$ inch. The sides of the rim are rabbeted $\frac{3}{8} \times \frac{3}{8}$ on one edge, so that, when the rim is nailed together, $\frac{3}{8}$ -inch cypress boards will fit inside the rabbets for a ceiling, with no edges or ends of

the boards exposed to the weather. The extra width of the end cleats is allowed to project on the under side to shed water. After the ceiling boards are in place the inch or so of space is filled with packing, and a top of $\frac{3}{8}$ -inch boards is nailed on, with the grain running opposite to those underneath. I put the ceiling boards crosswise of the hive, because the short boards will not be inclined to warp. Those for the top are placed lengthwise. The whole affair is covered with the best grade of asphalt roofing, or, better, with galvanized iron. The exposed wood is painted. It is rather hard to describe, and somewhat hard to make, unless one has some kind of circular saw. I make them on a Barnes saw, and they cost me about 20 cents each for material. They could be made and sold at a profit for 50 cents each. I would gladly give a dollar each for them rather than use any other cover that I have ever seen.

Newman, Ill.

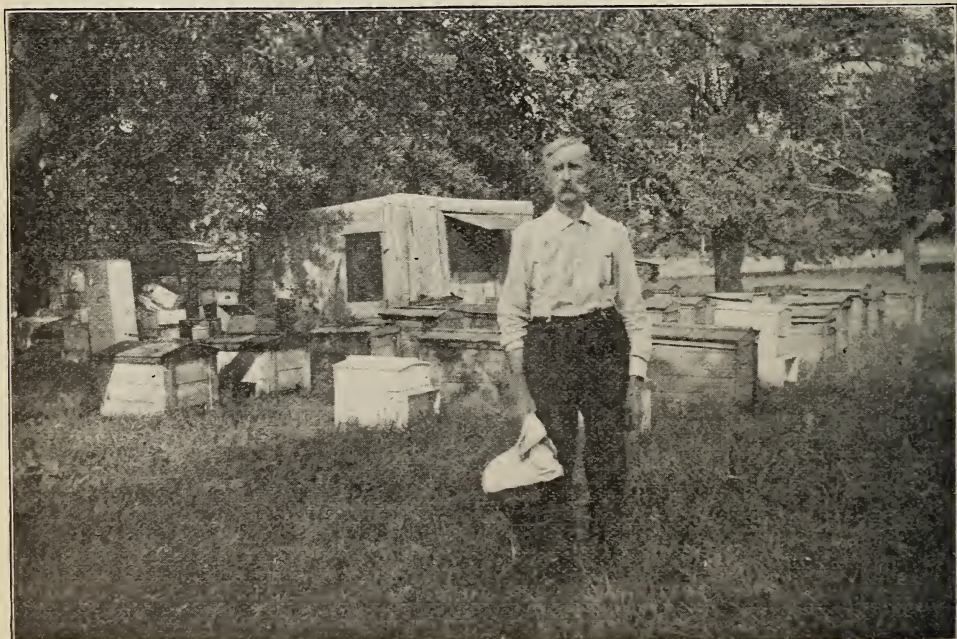
A NEW YORK VETERAN BEEKEEPER

BY ARNOLD IRISH

I send a picture of a beekeeper who has been in the business for 50 years. He and his brother owned the first extractor in this town. This yard contained 150 colonies before European foul brood came, which all

but wiped it out of existence. Italian bees saved the remnant. They certainly clean up the foul stuff all right—at least they did around here.

Lawton Sta., N. Y.



An apiary in which only the Italians survived European foul brood.

HONEY PRODUCTION OF IOWA

BY FRANK C. PELLETT, STATE INSPECTOR OF APIARIES.

For some time past the writer has been collecting records of honey production of the various localities of Iowa. While no such enormous yields are reported as we hear of in distant regions, on the whole the honey production of our State is fairly constant. White clover is the great nectar-producer; and the localities where the flow from white clover is supplemented by a fall flow from heartsease or other plants offer the beekeeper a pretty certain income. Correspondence comes to this office from every section of the State; and the yields average much alike in all sections where there is a fall flow. White clover is reported as the principal source of nectar by nearly every beekeeper reporting. One or two place sweet clover at the head of the list. In addition to white and sweet clover, basswood, heartsease, and fruit bloom furnish the nectar from which Iowa honey is stored. The average per colony, per year, counting good years and bad ones, good colonies and poor ones for a long series of years, is reported as from 45 to 50 pounds from a considerable number of localities. I may say that, judging from the reports, all sections of the State where there is a fall flow may be depended upon to produce an annual average of nearly fifty pounds per colony in the hands of intelligent apiarists. Localities where there is no fall flow report from twenty-five to thirty pounds as an average yield.

The record yield of a single colony, as far as reported, is 290 pounds of well-filled section honey, which was produced by F. W. Hall, in Sioux County. Mr. Hall is now at Colo, Iowa. We have several other yields above 200 pounds. At least two reports are at hand of the production of 300 pounds of extracted honey from a single colony. It is a little surprising that the record yield of comb honey should be almost as large as that of extracted honey, although of course the general average is much smaller. There are few entire failures in this State; and while the big crops reported from western localities are lacking, I am inclined to believe that for a long series of years the producer will fare as well in Iowa as elsewhere. There is, perhaps, as much unoccupied bee range in our State as anywhere, and the beekeeper need not look far for a location. S. W. Snyder of Center Point, reports that two apiarists in his township produced 20,000 pounds of honey last season, and did not occupy more than two-thirds of the range in the one

township. From figures obtained, it is estimated that not to exceed one-tenth of the honey production possible to the State is now realized.

J. L. Strong, the well-known queen-breeder of Clarinda, has kept bees in his locality for more than forty years. Since 1885 he has kept very careful records of the production of his apiary. The average of the seasons in his locality may be judged by the following record of the colony on scales. It will be noticed that not once in the twenty-eight seasons has the colony on scales failed to produce some surplus. Mr. Strong's records for the seasons are as follows, all extracted, in pounds:—

1885....	195 lbs. ext.	1899....	120 lbs. ext.
1886....	136 lbs. ext.	1900....	22 lbs. ext.
1887....	15 lbs. ext.	1901....	171 lbs. ext.
1888....	96 lbs. ext.	1902....	42 lbs. ext.
1889....	110 lbs. ext.	1903....	331 lbs. ext.
1890....	119 lbs. ext.	1904....	82 lbs. ext.
1891....	19 lbs. ext.	1905....	132 lbs. ext.
1892....	177 lbs. ext.	1906....	74 lbs. ext.
1893....	43 lbs. ext.	1907....	32 lbs. ext.
1894....	29 lbs. ext.	1908....	160 lbs. ext.
1895....	80 lbs. ext.	1909....	74 lbs. ext.
1896....	105 lbs. ext.	1910....	284 lbs. ext.
1897....	85 lbs. ext.	1911....	46 lbs. ext.
1898....	20 lbs. ext.	1912....	98 lbs. ext.

Mr. Strong has devoted his entire attention to beekeeping since 1882. He reports that the heaviest yield in a single day was 18 pounds, gathered by the colony on the scales, July 8, 1903.

Beekeeping has been long overshadowed by other agricultural industries; but land values are now so high that men of small means will be compelled to turn to something requiring a small acreage of land. The beekeepers have recently organized an association, and the meeting at Des Moines was attended with unusual enthusiasm. A great program was outlined, including a chair of beekeeping at the State Agricultural College, extension lectures on beekeeping, an appropriation of ten thousand dollars for foul-brood inspection, better premiums, and better facilities for exhibiting at fairs, and similar things. The prospects are exceedingly good for getting them all.

Beekeeping in Iowa is now looking up decidedly, and bids fair soon to be on the boom. It is easy to make things go when a lot of red-blooded fellows get together and boost. There is room in Iowa for five hundred live beekeepers who will establish a chain of outyards without getting in the way of those already in the business. They will be welcomed by those already here. In many parts of the State local markets are good, and in other sections they can be

worked up, as has been done already by beekeepers on the ground. Some producers write me that their local markets take their extracted honey at 15 cents per pound, and comb honey sells accordingly. Other markets are much lower, however.

Probably at least half of the State is free from disease, and we expect the pres-

ent legislature to provide the means to keep it free and to clean up the sections now diseased. Wintering and disease are the two problems to be met here, and both can be managed by scientific methods. This is no get-rich-quick proposition, but we consider it a safe one.

Atlantic, Iowa,

SOME NECTAR AND POLLEN BEARING PLANTS OF TENNESSEE

BY J. M. BUCHANAN

It is essential that the beekeeper have some knowledge of the flora of his locality in order to get the best results from his beekeeping operations. He should know when to expect a honey-flow, and be able to tell with some certainty how long a flow will last, and what quality of honey he is likely to get from a certain source. Then he will know when to make his increase, when to expect swarms, when to put on supers, etc.

The character of the honey-producing flora and the date of bloom depend on the soil, the season, and the altitude. A list of plants that will be found in one place may not apply at all to a location not very far distant.

In Tennessee there is great variation in soil and in altitude, the latter ranging from about 300 feet in the Mississippi Valley to over 8000 feet in the mountains of East Tennessee; hence it will be impossible to give the exact dates of bloom of the plants in this list. It would seem, from a casual reading of the list, that we had a continual flow from early in the spring until frost, but such is not the case for any given locality. This will be better understood from the following general summary of conditions:

The Tennessee River crosses the State twice, and the Cumberland makes a long curve through the central section, and in these valleys white and alsike clovers, and, in many places, black locust, form the principal source of surplus honey. On the ridges and tablelands of the central and eastern sections, the honey is from poplar, sourwood, and wild flowers of many species. On the plains of the western part of the State, and in the Mississippi Valley, cotton gives the greatest surplus.

The following list is by no means complete, although it gives the most important honey and pollen bearing plants of the State, with their approximate date of blooming.

Soft maple, *Acer rubrum*, February, March. Pollen and nectar. First help to brood-rearing. Valleys.

- Elm, *Ulmus americana*, March. Pollen.
 Sugar maple, *Acer saccharinum*, March, April.
 Sweet sap; nectar, pollen.
 Dandelion, *Taraxacum officinalis*, February to June. Nectar.
 Peach, *Amigdalus persica*, March, April. Nectar, pollen.
 Plum, *Prunus domesticus*, April. Some nectar and pollen.
 Turnip, *Brassica rapa*, April. Sometimes gives surplus where grown for seed.
 Peabud, *Cercis canadensis*, March, April. Nectar, pollen.
 Apple, *Malus*. Nectar, pollen. Valuable for brood-rearing.
 Black locust, *Robinia pseudacacia*, April, May. Good yielder of fine honey; slow to granulate.
 Yellow-wood, *Virgilia lutea*, May. Some surplus where abundant.
 Poplar, *Liriodendron tulipifera*, May. Heavy yielder. Honey amber, but good flavor.
 Alsike clover, *Trifolium hybridum*, May to July. Almost equal to white clover. Central and east.
 White clover, *Trifolium repens*, May, June. Principal source in central and eastern valleys. Honey white.
 Persimmon, *Diospiros virginiana*, May. Honey dark. Uplands.
 Linden, *Tilia americana*, July. Honey white, good yielder. Central and eastern valleys.
 Sourwood, *Oxydendron arboreum*, July. Uplands. Good honey, almost entirely free from granulation.
 Cow-pea, *Vigna sinensis*, July, August. Some honey, mainly from extra floral glands.
 Milkweed, *Asclepias*, several species, July, August. Some honey; sticky pollen.
 Horsemint, *Monarda clinopodioides*, July. Some surplus in western and central valleys.
 Indian corn, *Zea mays*, July, August. Pollen and some nectar.
 Ragweed, *Ambrosia aptera*, July, August. Heavy bearer of pollen.
 Smartweed, *Persicaria mite*, August. Light-amber honey of good flavor. Lowlands.
 Sumach, *Rhus copollina*, August. Some surplus. Uplands.
 Buckbush, *Symphoricarpos vulgaris*, August. Sometimes gives surplus. Honey, amber.
 Cotton, *Gossypium herbaceum*, July to September. Good yielder in western counties.
 Bitterweed, *Helenium tenuifolium*, August, September. Amber honey, very bitter. West.
 Holly, *Ilex glabra*, July, August. Honey, dark. West.
 Boneset, *Eupatorium perfolia*, August. Yields heavily along northern border of the State.
 Laurel, *Kalmia latifolia*, July, August. Eastern mountains.
 Goldenrod, *Solidago*, several species. September. Pollen.
 Aster, *Aster*, several species. September, October. Honey, amber; strong in flavor, quick to granulate. Good for winter stores.

Franklin, Tenn.

Heads of Grain from Different Fields



THE BACKLOT BUZZER.

It's no place for Virgil's poetry, Pliny's philosophy, and Aristotle's meditations on the honeybee, when three swarms come off at the same time.

[The above is the first of a series of drawings depicting the life and observations of "The Backlot Buzzer," by J. H. Donahy, cartoonist of the *Cleveland Plain Dealer*. Each issue for some time to come will contain one of these drawings.—ED.]

Another Case where Ignorant Spraying of Fruit Trees Kills Bees

I have had heavy losses in my bees on account of spraying for the past three years. This loss by ignorant spraying is very illusory, in that many small apiarists may ascribe their loss to wax-worms for the simple reason that, when the colonies are reduced by the poison, the wax-worms finish them up very quickly.

My bees got the poison three years ago, in June, just after I had put on the supers, about the 10th; and about the last of the month there did not seem to be half the bees that there were when I put the supers on. In the mean time I had noticed dead bees at only two hives. I thought that these had the paralysis, as had two in previous years that had it. As the weather was warm, and as they all had eight or nine frames of brood which all hatched out, I got 400 lbs. of extracted and about the same amount of comb honey—all collected during the 21 days of August, and all from *Clethra amfilia* (L.), sweet-piper bush, or white alder. I had seven swarms during this time, and they were the only ones during the year.

The next year (1912) after selling eleven to go into cucumber hothouses I had 35 good strong ones, and two or three weak ones. They were thriving well until apple-trees got into blossom, at which time they began to die off. It was so cold that large quantities of brood died in the cells. About June 1 I united them all into 14 hives. I went away, and was gone two weeks. When I returned, several had gone under entirely until I had only eleven. I then bought two hives of bees to give them bees to build them up for winter. I also bought several queens and two 1-lb. packages of bees. I also had one swarm come to me on Aug. 25. All of these gave me 12 colonies to winter. Every one wintered well, and all were in fine condition when the apple-trees came into blossom. In the course of two weeks they again went down to three. This is pretty discouraging.

Woburn, Mass., April 11. JOHN F. COBURN.

[This is one more link in the chain of evidence showing how bees are killed off by the ignorant spraying of fruit-trees while in bloom. The reports of these cases are so numerous that it would hardly seem there could be any question about it now.—ED.]

The Effect of Climate and Soil on the Color of Honey and Sorghum Syrup

I have been interested in this discussion of the effect that climate and soil have on the color of the honey of the same plant. I believe that the same plant in two different kinds of soil will produce honey of different shades.

I was born on the Black Land country of Texas, and I've seen a great many men there try to produce sorghum molasses. The sorghum cane grows there very luxuriantly, but the finished product, syrup, is black and watery—a very poor substitute for something sweet.

Over on the clay hills and sandy bottoms of the Cross Timbers, only a few miles away, sorghum cane doesn't make such heavy growth, but the sap from it makes a delightfully clear, fine-flavored molasses in which, in the winter time, there will be found fine granules of sugar. This sand-land syrup is the next best thing to honey.

Rocky, Okla., April 22.

KOS HURST.

[That climate and soil do have some effect on the color of honey there can be no doubt. The clover honey of Canada is undoubtedly lighter in color than clover honey south of the Great Lakes. Still further south, this same honey becomes a little darker. The northern-grown alfalfa honey in the Western States is lighter in color than the southern-grown. We have seen this statement contradicted; but the honey-buyers of the country know there is a difference.

For some reason the colors of palmetto honey in different parts of the South vary somewhat. In some places it is light in color, and in others it is a little on the amber order.—ED.]

The Science of the Granulation of Honey

What chemical change takes place when honey candies? Is it as wholesome as natural honey? What is the chemical action of vinegar in preventing honey from candying? Is this addition illegal?

Spokane, Wash., April 24.

J. C. MICHEL.

[This subject of the mechanical changes that take place when honey granulates has never been thoroughly investigated so far as we know. Chemically there is no difference between granulated and liquid honey; that is to say, both will analyze the same. Ordinary honey is an invert sugar, while the raw nectar in the flowers is a cane sugar. It will be seen, then, that the bees make a marked chemical change

in the process of ripening and of evaporation. "Honey candies on standing," says Dr. Headden, Chemist at the Colorado Experiment Station, Fort Collins, Col., "because of the ability of its dextrose to assume a crystalline form much more readily than the levulose."

Ordinary honey contains a combination of dextrose, levulose, and water in approximately equal proportions. Some honeys will granulate much more readily than others because they contain more dextrose in proportion to levulose.

We can not say what the chemical action of vinegar would be in preventing granulation, if it prevents it at all. In any event its use for the purpose would be a violation of the national and State pure-food laws.—ED.]

Dry Pulverized Powdered Sugar Mixed with Common Flour as a Substitute for Natural Pollen

Referring to page 283, April 15, article about artificial pollen, why not try some dry pulverized or powdered sugar, mixed with the flour, say one part to ten parts of flour, and have water near at hand for the bees to drink, so that they assimilate the mixture to the proper consistency of natural pollen? This may seem a foolish idea; but one can never tell until the plan has been given a trial, remembering the old saw, "If at first you don't succeed, try, try again."

Lacrosse, Wis., April 27. THOMAS D. BUDD.

[The idea is worth trying; but at this time of the year there will be no dearth of natural pollen, either north or south. But we can remember the suggestion for next year.—ED.]

Queen Laying Several Eggs in One Cell

I have a stand of bees that, to me, acts peculiarly. Last summer a pound of bees were put in a hive containing full sheets of foundation, and as fast as it was drawn the queen placed as many as three eggs in a cell.

This spring we find in many cells five or six eggs in each. In others there is just one. They are in fine condition, but I can't understand why so many eggs are laid in some cells.

Greenville, S. C., April 13. J. T. BURGARD.

[In your case this condition may be due to the fact that the queen is very prolific, and capable of laying in a larger area of comb than the bees can cover; and rather than go outside of the cluster she places the surplus eggs in cells where she has already laid. The bees usually remove all such eggs except one, which is properly cared for. After your colony becomes strong you will no doubt find that this condition will disappear.—ED.]

Building Combs from Starters in Wired Frames

Is it practicable to use starters in frames that are wired? In building down from starters will the bees attach combs to the wire, or should I use full sheets?

Concord, N. C., April 13. W. D. YORK.

[It is a difficult matter to get bees to build combs in a satisfactory manner in wired frames from foundation starters only. If the hive is set level so that the comb will hang straight in the frame the bees will build over the wires; but when they come to them they are very likely to make a row of faulty cells. Owing to the large amount of drone comb usually built on starters, it is more economical to use full sheets.—ED.]

Maricopa County, Arizona, Overstocked

From the report of our efficient foul-brood inspector, Hon. J. P. Ivy, I find that we have 19,858 colonies in Maricopa Co. For some time I have been replying to questions regarding locations, etc., but I wish to say that the apiaries are overlapping each

other already. Our rigid foul-brood law has kept many from locating here with diseased apiaries, and I think we shall be able to exterminate foul brood entirely in the near future.

Phoenix, Ariz.

WM. LOSSING.

Proper Ventilation Removes Moisture within the Hive

I have noticed paint "blister" on some of my hives, but have usually attributed it to the use of poor paint or failure to shellac boards showing excess of pitch.

There may be some difference in the amount of heat reflected or absorbed from the sun's rays by painted and unpainted hives; but ventilation will dispose of internal moisture more effectually than to depend on the walls of the hive to absorb it.

Rocky Ford, Col., March 11. A. S. PARSON.

Enclosing Hives in Cloth Bags to Make Them Safe for Moving

Most beekeepers have a great time telling how to fasten the bees in the hive so that they will be safe under all circumstances. The best way I can find to fasten them is to get for each hive two yards of sheeting; put the ends together, and sew up the sides. This makes a bag. Draw this over the hive and tie the end like a sack of grain. None will come out, no difference how far you move them, and you do not need to close the entrance.

Emerson, Ill., March 17. W. H. H. STEWART.

Borax to Keep Cockroaches Away from Bees

I have found borax the best remedy for cockroaches and ants. It acts rather slowly, however, for it takes about a week to have much effect.

Covington, Pa.

H. P. KNOWLTON.

[We ourselves have found borax a good remedy for cockroaches. If scattered around where they are found they seem to keep away after a few days; but it usually has to be scattered around quite frequently. So far as we know, it would do no harm to the bees.—ED.]

Heavy Fruit Bloom; Good Prospects

Bees in this locality are doing finely; very heavy fruit-bloom; also best prospects for a bouncer clover bloom and basswood; supers mostly have all been placed on over the brood-nests, and bees have commenced work in them. Bees in this vicinity came through the winter exceedingly well.

Glen Easton, W. V., May 8. JAMES I. LUTES.



Ferguson Whiteside's remedy for backache when moving bees.

A. I. Root

OUR HOMES

Editor

When a man's ways please the Lord, he maketh even his enemies to be at peace with him.—PROV. 16:7.

Dear friends, I have a wonderful story to tell you; and (may the Lord be praised) it is a *true* story. A few days ago a very prettily bound book of about 160 pages came through the mails. A printed slip in the fore part of the book reads as follows:

As a brother-editor I am sending you this book, hoping that you will peruse it, and not only enjoy it but profit by it, and then give it a review in your paper. FRED ROHRER, Berne, Ind.

The book is *indeed* "stranger than fiction." I suppose most of you read in the papers (some years ago) or heard something about it at the time, that a temperance worker's home was dynamited by saloonkeepers because he tried to enforce the law. Well, this book was written by the man whose house was dynamited, and who was assaulted and pounded in the streets and in his office; but as he trusted in God he was not so easily scared out of town. As the preface is very short we give it here entire:

The object of this book is threefold:

1. To praise God for victory after a long and bitter war of constant battling between the forces of heaven and hell.

2. To encourage young people to do right because it is right, no matter what people say; for right wins in the end.

3. To nerve temperance people individually to law enforcement, for this, coupled with faith in God, is the key that solves the temperance problem.

As I take it, Bro. Rohrer is a Mennonite; and, if I am correct, the Mennonites are what is sometimes called a non-resistant class of people. They do not believe in striking back, and their motto seems to be to return good for evil. On page 9 we read as follows:

The towns are named after Bern and Geneva, Switzerland, because the early settlers of this community hailed from the land of Wilhelm Tell; and about 80 per cent of the population of Berne and vicinity speak the Swiss dialect to this day.

The above does not say he is a descendant of William Tell, but the book seems to indicate he has inherited the Tell spirit. We clip the following from page 45:

About an hour after the events just told, when I had returned to my office where I happened to be alone, Abe Bagley, who was then president of our town board, came in, first on business, then asked why I had made him go before the grand jury. He had also been seen going into saloons when they should have been closed, and that's why his name was handed in with the rest.

At that time our town officers would pat the saloonkeepers on the back and tell them just to go ahead and pay no attention to us; that ours was just a mushroom enthusiasm which would soon die out; that we had a kind of crazy spell, and would get over it after a while.

I hadn't said many words when the town presi-

dent came into my private apartment, behind the desk, grabbed me around the waist, jerked me off my stool, and knocked me on the floor. Just then the door was opened, and in came some twenty men who had been watching for just this moment.

The above gives us a glimpse of the condition of affairs in Berne, Ind., when this young printer started out against great odds to insist on law enforcement. He tells us of several places where they had a mayor so much in sympathy with the liquor gang that he had a fashion of fining criminals "one dollar and costs" when they came before him for law-breaking. Let me now give you an extract from pages 46 and 49:

Our town president proceeded to drag me out; but before he got me out of my private office I had a chance to get on my feet again and caught hold with both hands of the iron guards around my desk, and I silently prayed to God to keep me from letting go. The man of towering physique who had hold of me again grabbed me around my waist, lifted me off my feet and tried to jerk me loose until my hands were blistered and skinned. Then he took hold of my wrists and tried to work my hands loose from the iron railing, so that both arms were swollen the next morning.

The mob was in a fury, and became impatient. Some cried:

"Bring him out, bring him out; why don't you?"

He replied:

"I can't take him out."

Then others shouted:

"Punch him, punch him!"

Still others yelled:

"Pound him, pound him!"

As he brought his big fist down upon the back of my head and on the neck in rapid succession I silently prayed to God to help me bear it. And he did. Bless your heart, God never goes back on a man who doesn't go back on him. Although I saw the stars fly in every direction at each stroke, they never hurt me a bit. I never groaned, and never uttered a sound during all the time the mob was in the office. The town president hammered away on my head until the town marshal, William Tucker, came and with difficulty forced his way through the crowd and ordered the men all out.

I was reading proofs when the men came in; and as they left I picked up the papers that were scattered over the floor and went straight to my work again. The town marshal was standing in front of my desk and watched me while I was marking mistakes on the proof-sheet. Presently he remarked:

"This is going to be a bad night for you. I wouldn't be in your shoes for a thousand dollars."

"Why?" I asked.

"Oh! they are red hot after you; and they will get you to-night if they can. You'd better go home."

"Well, if they want me they can get me at home just as well as here."

This incident has a bearing on something that comes in at the end of the book. How many Christians have we among us who could stand treatment like that without striking back? Friend Rohrer, it seems, was given grace in answer to prayer to talk kindly and good-naturedly to those who threatened him, and finally knocked him down and pounded him. Of course, those

who attacked him were generally filled up with drink; but the persecution became so great against this almost single-handed temperance worker that his best friends *advised* him to leave town. Here is an extract from page 55 which shows that we have not only a *hero* in our story but a *heroine* as well.

On the evening before, after the two attacks upon me, friends went to my house to console my wife and be with her. Now, they and relatives urged her to persuade me to stop fighting saloons. But she answered:

"Why, that would be too cowardly to give up a fight because it is growing warm."

"Yes; but they will kill him as sure as you live, and you can't stand it."

Very calmly and deliberately she replied:

"Kill him? Let them kill him if they wish; I've given him up. I'd rather be the widow of a dead hero than the wife of a living coward!"

And that settled it with me. After that I never had enough nerve to act cowardly. With such a woman at my side, what could I do but keep my place on the battlefield, and stay there like an ox between a yoke on one side and an altar on the other—ready for service or sacrifice?

What do you think of a devoted wife who can say to a mob of drunken men, "I had rather be the widow of a dead hero than the wife of a living coward"?

As an illustration of the way in which this godly man stood up before his enemies, see the following from page 75:

"Fred, I came to lick you!"

"All right, just lick me if you think it would do you any good."

He then tried to provoke me into anger and get me into a fighting mood; but I jollied him all the while and tried to keep him in good humor as long as I could. Finally he thundered at me:

"Are you ready?"

"Yes, I am ready any time; are you?" I answered, but remained seated on my stool and let on as if I weren't paying any attention to him, and that, of course, wasn't getting him ready very fast. You see it's hard for a man to work up his fighting spirit to the striking point when you try to make him laugh all the time. Fighting and laughing don't mix very well. It was like pulling teeth for that man to get started in his fight; but he finally mustered up enough courage to raise his big arm and land a heavy blow on my face so that I flew off my stool into a corner like a little squirrel, as he himself termed it.

I wish to call particular attention to that sentence, "You see it is hard for a man to work up his spirit to the striking-point when you try to make him laugh all the time."

This whole story reminds me most vividly of some of my experience in years past when I attempted to render good for evil, and to love my enemies, and to "do good" to those who hated me.

After the saloonkeepers with dynamite had to give up, and the town of Berne was made dry, and good men were put into office, the neighboring city of Portland, Ind., was approaching a wet-and-dry election. They sent for Mr. Rohrer to come

and talk to them, and he told his story substantially as given in the book, and caused righteousness to triumph. At the close of his talk he clenched the nails as follows. Here is what he had to say to the great audience that packed the court-room:

"I see this sounds to some of you like a fish story. But do you suppose that I would make up a story like this when I know that one of the three men of whom I am talking is sitting in this audience and is listening to every word I say? If I wouldn't be telling the truth, wouldn't he get right up and call me down as a bare-faced liar?"

Then everybody looked around, and the men just craned their necks to see where he might be. I asked Mr. Rinaker to arise and tell the audience whether or not he is one of those three men.

Mr. Rinaker arose and addressed the meeting.

"Gentlemen," he said, "I am one of those men, and I can testify that every word Mr. Rohrer spoke is true. He did put me out of the saloon business, and to-day I am glad of it," and went on to tell that he is now in the restaurant business and likes it much better, etc.

That was making a "hit," and it had the desired effect. The next day the legal voters of Portland signed the remonstrance freely, and by Friday following every ward in the city was made dry and the saloons have never returned.

You see he not only whipped the saloonkeepers to a finish, but he demonstrated the possibility of transforming *enemies* into *friends*; and this ex-saloonkeeper actually went with him and sat near him while he spoke and told his story, and then rose up and testified before the great audience as above. Now one thing more:

It might as well be stated, too, that Abraham Bagley, the first man who assaulted me in my office, and who was going to deliver me into the hands of a howling mob, was the architect of the new *Berne Witness* building, just completed and described in the next chapter. I paid him \$500 for drawing the plans and assisting me in superintending the work, for I bought the material for the building and hired the laborers, and kept their time mostly myself, and never had a quarrel with any one.

That illustrates most powerfully the grand truth in the text I have chosen. Friend Rohrer prospered in his printing business, and in his temperance periodical called the *Berne Witness*, until he bought the premises where the saloons had just been carrying on their hellish work. Not only that, he hired the man who (years before) first assaulted him in his office to make the plans for his great printing-office, and to assist in superintending the work. Truly, truth is *stranger* than fiction. On one of the closing pages of the book we are given a picture of this building. To illustrate how God prospered the fearless young printer, read the following which I clip from page 142:

This, the first paper published in Berne, appeared as a seven-column folio, and was printed on an old Washington hand press. A good friend of mine predicted that in a year the name of the paper would be changed from "*Berne Witness*" to "*Berne Quittness*;" but instead of doing that it was enlarged to a

five-column quarto, and the force of two increased to three. In April, 1899, it was changed to a six-column quarto, and the force increased to four and soon to five persons. The next year a German edition was added, and continued until November 1, 1901, when the two were merged and issued as a semi-weekly for eleven years. On September 2, 1912, the semi-weekly gave place to a tri-weekly, in which form the paper is now delivered to its readers.

In closing, let me lay emphasis on the wonderful truth taught in the above. It is a grand thing to *enforce* law and to come out victorious over such a gang as infested Berne, Ind., at the time the story opens. And, by the way, I am afraid there are far too many towns—yes, cities—that are infested and ruled by just such a gang. We have judges who fine a man “one dollar and costs” when his offense should send him to the penitentiary. Well, this matter of law enforcement is a good thing; but, dear friends, how much greater and grander is the victory when law enforcement can be managed with so much love and kindness that even the *saloonkeeper*, perhaps the *dynamiter*, may be made personal friends and set to work in something that is praiseworthy before God and before all good men and women!

One thing more just now occurs to me, showing the Christian devotion of this young temperance worker. At one time there was a discussion as to whether a certain kind of liquor was intoxicating or a temperance drink. Mr. Rohrer called the town marshal and asked to be locked up with him, and one or two other witnesses. He also got the marshal to keep him locked up to see if the liquor made him drunk. He then drank three glasses of what they called

“hop cream.” He said it was a long time before the door was unlocked and he was permitted to go home without fear of being arrested for public intoxication. His evidence was accepted, and the man who sold the hop cream was fined \$75.00 and costs. In a thousand other ways this man Rohrer collected material for his temperance crusade. He studied the laws of Indiana until he knew them by heart, and the expert whisky dealers found out that he was *more* than a match for them.

In closing let me say that the splendid introduction to the book is by that magnificent man and temperance worker, ex-Governor J. Frank Hanly. Lack of space forbids the whole introduction, but I want to give the last paragraph.

Four times the sponsors of the traffic assaulted and beat this man's person. Once they sought to mob him, and once they dynamited the house where his wife and children slept. But his will was unbreakable, his courage unflinching. He remained throughout it all as loyal to his convictions as the needle to the pole, and as faithful to his purpose as the circling stars in their courses, consoled and sustained by a flawless faith—a faith that whatever might personally befall him, the cause he served would remain and go marching on until God should crown it with victory.

J. FRANK HANLY,
(Governor of Indiana 1905-1909.)

If you wish to help encourage such a man, send 50 cents to the address shown in this Home paper; and may God be praised for this wonderful demonstration, standing out sharply defined before all the world as a vivid illustration of the wonderful truth of my text, “When a man's ways please the Lord, he maketh even his *enemies* to be at peace with him.”

HIGH-PRESSURE GARDENING

POULTRY AND POTATOES IN FLORIDA.

Before you commence to read this I wish you would turn over to page 317, April 15, and look at the picture of a plate of potatoes. I have something more to say about it. When I took that plate of potatoes to town to have it photographed I first carried it into a grocery where I sell my eggs, and asked them how much they would give for such potatoes. They thought that \$1.50 would be about right. I took the potatoes to another grocery, where I also sell eggs, and they said the same thing; but when I looked at the new potatoes they had for sale I said, “Look here, my good friend, if you can get 40 cents a peck for the potatoes you have there, you can easily get 50 cents a peck for mine.”

He told me that perhaps it would be a

good idea to bring him half a bushel. I did so, and they were snapped up almost before I was out of sight. The next day I brought him a bushel, and they were promptly taken in a like manner. Then I brought him two bushels; and every day when I went into the grocery with some eggs, my nice washed assorted Triumph potatoes were gone. Finally the proprietor of the place first mentioned asked me why *they* could not have some of the nice potatoes I was growing. I told him it was because he offered me only \$1.50. “Well,” said he, “nice potatoes are worth more money now. Bring me a bushel.”

The next day they wanted three bushels, and so on until my whole crop of about twenty bushels was all gone. When I first started these nice potatoes the proprietor

thought they could not get 50 cents a peck; but one of his young clerks interposed something as follows:

"Why, yes, we can, Mr. B., for we have quite a few customers who do not care any thing about the *price* providing they have something that is good, and looks nice."

It occurs to me just now that I had better tell you something about the potato market in Bradentown when I arrived there in November. We carried down a few potatoes I had just dug in my garden in Ohio. When those were gone I bought a peck (for table use, of course) in Florida. They were potatoes that had been shipped down from the North. I think they cost 60 cents a peck. Of course, this price includes delivery; and I have sometimes thought that people like myself who do not ask to have things *delivered* should have a little lower price. Well, of these potatoes that cost 60 cents a peck, nearly half of them had to be thrown away. They were bruised, cut with a hoe in digging, and had begun to rot. They were ill-looking and ill-smelling. I went to another grocery, and there found but little better potatoes. Mrs. Root said she had to throw away half of them. By the time my new potatoes were on the market, potatoes from the North were being shipped in, and these were rather better, and sold at a lower price—I think about 40 cents a peck.

Do you inquire why potatoes in Florida should be 60 cents a peck when they are digging them here in Ohio at 60 cents a *bushel*? Well, there are several reasons. Potatoes are bulky, risky to handle, and if sent to Florida during the hot weather, especially right after being dug, they are liable to rot. This does not explain, however, why we should find so many potatoes down in Florida that are cut or otherwise injured in digging. Mrs. Root declared that *somebody* sorted out *culls* and then charged consumers 60 cents a peck for them. Some of you may ask, "If new potatoes can be sold down in Bradentown for \$2.00 a bushel, why does not everybody go into the business?" I asked my neighbor, Mr. Rood, why he did not grow potatoes by the acre. He said, "Simply because I can make more money in growing celery and strawberries."

I suppose you know that new potatoes are shipped from Florida to the Northern markets by the hundreds of carloads, and this is being done now while I write. I do not think, however, they get the big price of \$2.00 a bushel.

Now, something else comes in right here that Mrs. Root has complained about. She says the people who write for the papers

never mention it. She says that \$2.00 a bushel is not so much when they are paid for in store pay, like our eggs and all sorts of vegetables and fruit (that is, where we do things on a small scale); the produce has to be carried to the towns and sold at the groceries, and all you get is "store pay." I believe the rule is for the grocer to sell potatoes, fruit, eggs, and vegetables at just what they pay for them. Their profit comes from the goods they sell in exchange for truck.

A year ago, when I left Florida I had a credit of about \$40.00 at the groceries; but it took it all, and more too, to pay for the "chicken feed" from May till November. Mrs. Root comes back at me just here and asks where the *profit* is. The profit comes in the young flock of pullets that have to be fed until they are old enough to begin to lay. You see I am *now* coming over to the *poultry* part of my article.

We hear it over and over again that it does not pay to keep chickens in Florida because grain costs so much; and that is true to a certain extent, or according to how you look at it. Wheat, oats, and corn cost about \$2.00 per 100 lbs.; corn and oats a little less, and wheat a little more. But now look here: Even if it is true that you can't grow wheat, oats, and corn profitably in Florida, you can grow Irish potatoes (as I have demonstrated every winter), and get a good price for them. I can swap a bushel of potatoes for 100 lbs. of corn, and usually get 15 or 20 cents besides to my credit. I do not know how many bushels of those nice potatoes could be grown on an acre; but I think it safe to say 200. Now, if every bushel were swapped for 100 pounds of corn, what sort of a corn crop would that be? And, by the way, all the grocers in Bradentown deliver their stock, and, if you wish, they at the same time pick up your products, such as eggs or garden truck. One of the grocers recently purchased a Ford auto truck, and he will come down to my place, a mile from his store, to bring me a bag of corn and take back a bushel of potatoes. Now, Florida has some drawbacks, I admit; but is there not much to be thankful for also?

Just a word or two more about swapping country produce. If I am correct, this practice is not confined to Florida, but it is a fashion almost all over our land. Take your butter, eggs, etc., to the store, swap them for groceries; and is not that a short cut from producer to consumer? I think that *butter* of late is mostly cash; and here in the North we have egg-dealers who go around to the farmers and pay cash. Mr.

Rood, in selling his strawberries at the groceries in Bradentown, has the same difficulty to meet. He takes pay out of the store; but the grocer sells all kinds of produce such as meat, etc., and Mr. Rood keeps quite a lot of men almost all the year round; and he also buys fertilizers by the ton. In that way he does not have much difficulty in trading out what is due him on the berries. Of course, the people who go there to the berry-fields after fresh fruit pay cash, and he gets quite a little in that way.

While I think of it, our two sons visited us last winter at different times, and they thought there were no strawberries in all the world better than the Florida product. They just filled up on berries grown by Mr. Rood, and "filled up" on cream also, furnished by his Jersey cows. You see, Mr. Rood makes a *specialty* of "strawberries and cream." Now, one reason why he keeps so many Jersey cows is because of the quantity of manure they furnish, which down south is worth \$3.00 a load. Now, last but not least, I have got something else that comes in right here most beautifully. Some of you may come back at me and say, "But, Mr. Root, you forget to mention that you cannot grow those beautiful potatoes such as you showed us in the picture without buying a lot of expensive fertilizer at, say, three or four dollars a bagful."

Yes, I can. The hundred or more chickens I usually keep furnish me all the fertilizer needed to grow the produce; and the finest sweet potatoes as well as Irish, that I ever grew, are right on the ground where I have had my poultry-yard, and they are good big yards too, which I have had for several years.

Let us now wind up with a "summary" of suggestions just as the experiment-station bulletins give us. At the end of each bulletin they say something like this:

Potatoes can be planted all over Florida from October to February; and if intelligently grown and cared for they can be sold for something like \$2.00 a bushel; and you can, as a rule, swap a bushel of potatoes for 100 lbs. of corn or other grain. A good part of the winter, eggs bring from 40 to 50 cents a dozen, and the poultry droppings will furnish the very best fertilizer to help supply the minerals that may be needed. Now, this being true, how can anybody say we cannot grow chickens in Florida because the *grain* costs so much?

Let me add, in closing, that my colored man, Wesley, has had charge of my chickens since I left, May 1. He has work around in the neighborhood, so it is not much of a task for him to look after the chickens

mornings and evenings, and he has just now sent in a report, for this present month of May, of an average of over three dozen eggs a day from about fifty laying hens. He takes the eggs to market every night, and swaps them for grain. Of course, eggs now are only 20 cents a dozen; but the three dozen eggs pay for the feed of not only the fifty laying hens, but as many more pullets not yet quite old enough to lay, and still leaves quite a fair margin every week to pay him for his morning and night visits.

HOW TO MAKE A HOT-BED; ROOTED CUTTINGS, POTTED PLANTS, ETC.

When I reluctantly left my garden in Florida, and came here where there is frost, about May 1, for a few days I felt lost because I could not see "things grow." One of the first things I did was to order a big wagonload of well-rotted stable manure. Down in Florida it is \$3.00 a load, and you can not get *old* manure even then, or not often; but here in Ohio liverymen deliver it for only \$1.25 a load, and a big load at that. Well, next day after he had pitched it on a pile on the edge of the garden I noticed it was smoking. This was specially noticeable after a hard frost. (We had several hard frosts the first week in May, and one light frost on the 15th). Later, as I did not wish my precious manure to "burn up" I took a rake and spread it out, leveling it so as to let it cool off. In doing this I noticed it was almost boiling hot, and it occurred to me that, if I could throw some good soil on it, it would be a nice place to start seeds. Then my eye caught sight of an unused hot-bed sash over in my son-in-law's garden. All there was wanting, under the circumstances, was a frame or wooden box, without top or bottom, of the size of my sash, to be placed over the hot manure. Now, I was in a hurry; but I recalled that in the basement there were some pieces of boards left by the carpenter. There were none that were 6 feet long the size of my sash; but by taking two short ones and lapping them together I made two pieces for the sides of the sash, exactly 6 feet long. In a similar way the smaller bits made the end pieces, 3 feet long. With hammer and nails (but without any saw or other tools), I soon had a very serviceable frame or box for my hot-bed with sash on top of it. Now, down in Florida May is the dry month. My man Wesley writes me to-day, May 18, that there has been scarcely a drop of rain since I left; but here in Ohio—oh dear me! every thing has been swimming in water for the past two weeks. I managed, however, to find some of our clay soil that was dry enough

to sift, and soon had two or three inches of this soil covering the hot manure inside of the box.

Just a word about getting good soil for a hot-bed or cold-frame. Florists go long distances to get the right kind of material for "potting-soil." If there is a creek or stream near you, where the dirt or soil is washed down the gullies, you can often find an abundance of very nice friable loam. Perhaps a little sand has washed in with it, though it is a clay soil; and this wash from the hillside is often the very nicest material to help make potting-soil. Let me digress again.

Last fall our people bought a carload or more of sweet-clover seed with the hulls on. To save transportation charges to our customers a clover-huller was employed to take the hulls off. Well, these hulls lay in a heap all winter; and this spring, when my eye happened to catch on to them, it looked like a pile of old well-rotted manure. There was a heaping wagon-boxful, and I had it placed right opposite my hastily made hot-bed. This was sifted and mixed with the soil I have mentioned, and I had a "compost" that should have made any gardener happy. Well, after my hot-bed was fixed I planted melons, squashes, lettuce, radishes, beans, some dasheen tubers, and a little of almost every thing else. Then I went up to the greenhouse in our town and got a dozen potted tomato-plants. The manure at first was too hot, even for the tomatoes; but when it cooled off a little I put them clear down where the roots could go into the hot manure if they wanted to; and just now, May 18, I have a little greenhouse that delights my heart. Squashes, melons, and all these rank feeders that love bottom heat, are just doing their best.* Of course I have to give them ventilation when the sun comes up; but in the middle of the day my hot-bed is shaded by some evergreen trees. The ground is yet too wet to make garden outside, although I have had my furrows marked out. My melons, squashes, etc., will be transplanted outside as soon as the weather will permit; and under each hill I am putting the manure and rotted clover chaff.

Much is being said in the papers now about the "backyard garden" as well as about the back-yard chickens. Well, now, it will not pay you to fuss with a small garden unless you can make the ground exceedingly rich. Hunt up the proper materials, and work them over well together, then put a shovelful of compost under each hill, and you will get enormous crops. It is

some fuss and bother; but I tell you no one knows as yet how much stuff may be grown on just a few square rods of ground if you feed and water the plants properly. Your ground must be well underdrained to take care of the heavy rains such as we have here in the North; and here is a nice thing about hot-beds or cold-frames:

When your stuff has already had too much rain, put on the sashes to keep it off. Some of you may say, when you read this, "This is the wrong season of the year to talk about hot-beds, cold-frames, etc." Well, that is true to some extent; but you can keep it in mind and be ready to push things another season. And there is one thing more about it. How many of you have had experience in paying out good money for choice plants and had them die under the scorching sun that is liable to come even in May as well as in June? Let me tell you how to avoid all such disappointments—that is, I can tell you how to take a plant that is almost dead and make it come to life, with just such an arrangement as I have described, but without the bottom heat. Have some good rich soil, say half manure. Put in some sand to make it friable, and have it carefully sifted so as to get out all the lumps, stones, etc. If you are not very strong have your glass sash hinged so it can be opened up and hooked against a post or tree. As a 3 x 6-foot sash is rather heavy, a coiled spring at each corner to help raise it up will be quite a convenience. I think it would be better to have the arrangement in the shade of a tree, or, say, a tree that will shade it in the middle of the day. If not, you will want a cloth frame to lay on top of the sash when the sun is very hot. Put a thermometer inside so you can have the heat just where you want it. Now, while the sash is in place, the air will be moist inside of the frame, no matter what the weather is outside. When you get some new plants, put them in this rich soil and keep the sash down and shaded in the middle of the day until the plants got well rooted. Then you can gradually harden them off and move them outside almost without a failure if you keep the matter of moisture just right. Do not water too often; and do not let the soil become either too wet or too dry.

ROOTED CUTTINGS; POTTED PLANTS, ETC.

I have often spoken of friend Reasoner's big establishment at Oneca, Fla., only five or six miles from my Florida home. Mr. Reasoner has collected valuable semi-tropical fruits and plants from all over the world, and, in fact, he is shipping them daily *almost* all over the world. Although they seldom have frost in that locality, he

* The "Helianti" tubers (see previous mention) are making the biggest progress of any and all the rest.

has quite a range of glass-covered green-houses. Then he has *acres* of garden that can be covered in severe weather by cotton sheeting; and once in a while he has stoves inside to warm up the temperature. Now, one of his houses that greatly interested me was a glass house for making rooted cuttings. It is kept at a high temperature, and the air in it is always moist, and kept so by sprinkling not only the plants but the floors and walks. In this "forcing-house" he makes "rooted cuttings" of almost every thing for which there is a sufficient demand. For instance, he will take a mulberry-tree and cut the branches all up into little cuttings, perhaps two or three inches long. They are then set in moist sand until they take root. Then you may see not only hundreds, but *thousands* of little plants and little trees all the while being propagated in this forcing-house. I felt a good deal pleased to find out that the foreman of this house came from our Ohio Experiment Station.

Well, when these cuttings of valuable plants begin to send out their little white roots they are put into small pots with such a rich compost or potting-soil as I have

described, and kept growing until the roots fill the little pots, and in this shape they are sent out to customers. The plants (soil and all) are slipped out of the pot, securely packed in damp moss surrounded with paraffine paper to hold the moisture, and then they will keep in good order for long shipments. During the winter I purchased thirty or forty potted plants of Florida fruit and flowers, put them out in my garden, and it was a great pleasure to me to see almost every plant keep right on growing almost as if it had not been transplanted. When these new fruits come into bearing I propose to tell you all about them. I have before mentioned friend Reasoner's voluminous catalog; and, if you are interested in Florida and in what can be grown there, it will repay you to get this catalog and study it. It gives one full information in regard to plants that are hardy enough to stand out without any protection; and it also suggests the best and cheapest way to protect tender stuff that might not stand the frosts that are *liable* to come almost any winter.

POULTRY DEPARTMENT

HOW TO GET RID OF MITES ON POULTRY.

We use bamboo $1\frac{1}{2}$ or 2 inches in diameter, and about 5 feet long. We take a hot iron and burn a hole through the joints nearly the size of the bamboo; then at each joint take a saw and cut in a small notch $\frac{1}{8}$ inch wide, $\frac{1}{4}$ inch deep in a straight line, so all will be under the perch when set up. Drill holes in the end of the perch to drop a spike in to keep it from turning. Do not use any spray or oil on them, but keep them clean so the mites will go in them; for when the chickens go to roost these lice do their feeding, and then hunt a nesting-place. If they are allowed to they will leave the chicken at night, and go into the holes under the bamboo, and fill the perch from end to end. Then all one has to do, a couple of times a week, is to lift up the perch, hold it up over a can of hot water or oil, hit it on the side, and see what happens. The results will scare you, for the pests will drop out in one long string. I have seen them come out in one mass not less than 3 feet long, and finally, after a few cleanings, one can get only about half a teaspoonful. The way we had our chicken-house fixed was to have the roosts separate from the building so that, when the chicken was on the roost, it could not touch the building. Use crude oil on the perch-holder legs about a foot off the floor to keep what lice are on the holder from going down on the floor and getting into the building; and if any spraying is to be done, take down the roosts and spray the house to make it healthy. The bamboo keeps the fowls' feet warm.

San Jose, Cal., Jan. 16.

W. A. BARSTOW.

My friend, your suggestion is, I think, a good one. Down in our Florida home I have often noticed these bamboo poles, sometimes about as large as your arm, or

perhaps larger, which we find lying around loose. I was wondering if those partitions at the joints could not be easily bored out so as to make a very strong, light, serviceable tubing. Your suggestion of a hot iron, I think, would work it out to a dot. This would be a cheap way, where bamboo is plentiful, to make "trap" perches. While in California years ago I saw water carried a considerable distance down the mountains by means of bamboo tubing. The only trouble was that the coyotes learned to gnaw holes through the tubing so as to "get a drink" when thirsty. We have gotten the upper hand of the mites in Florida with very little trouble by spraying with kerosene with a little cresol added.

CUTTING OFF THE SPURS FROM OLD FOWLS.

In the issue of Oct. 15, you speak of good mother hens, some being very old. We have several such mother hens five and some six years old, which we should like to keep, but they have long spurs on their legs which make them almost unfit to hover young chicks; and sometimes the eggs are broken by the spurs while the hens are sitting on eggs. Can these long spurs be cut or sawed off without injury or pain to the hens?

Ross, Cal., Dec. 27.

PHILIP SCHAFER.

My good friend, we have repeatedly cut the spurs off from our old roosters with a

little thin saw such as is used for sawing metals. You can buy such a saw and frame at any hardware store for from 10 to 25 cents. I suppose any fine saw will answer. It is done very quickly, and does not seem to trouble the fowls at all. I noticed in the poultry-journals something about the feet of the fowls bleeding; but I have never seen any thing of that kind. Sometimes these

spurs are very sharp, and, of course, they are of no use at all to people like you and me who do not believe in cock-fighting. I presume they *could* be cut off with a pair of pruning-shears just about as well; but I think the saw will probably cause less pain and do a smoother job. I feel sure the elderly biddies will thank you for getting these abnormal growths out of their way.

HEALTH NOTES

SOMETHING IN REGARD TO GRAPEFRUIT, FROM
A. I. ROOT

Our readers will recall that several times I have mentioned the benefit I get from grapefruit taken daily when I am in Florida. During the past winter our nearest neighbor, Mr. Harrison, has kept me supplied with great luscious fruit at only 40 cents a dozen. Many of them are so large that I used only half of one with my apple supper. In this connection in my reply to friend Vincent, in Kind Words for April 15, I forgot to mention grapefruit. I have several times alluded to the kidney trouble that obliges me to get up in the night. Well, just as soon as I have plenty of grapefruit I sleep until broad daylight, without any disturbance or annoyance whatever. Others have corroborated it.

The question has frequently come up, "If it is really true that the grapefruit has such valuable medical qualities, why not have it bottled like grape juice, just now (thank God) on sale in almost every corner grocery from Maine to Florida?"

Now, I do not know how much has been done in putting up grapefruit juice so it will keep; but another near neighbor is already at work on it, and has put it up in bottles such as are used for grape juice, and has kept it successfully for many months. The only trouble with it at present is that it is going to be rather more expensive than grape juice.

Just one thing more about grapefruit. I have not found it easy, when eating either grapefruit or oranges, to avoid getting "mussed up" more or less. If the juice happens to spurt out on your clothing it leaves a bad spot. Now, here is a suggestion: Get a straw, or several of them, such as are seen at every soda-fountain, and suck the grapefruit juice through a straw. Just cut a hole in the top and squeeze the juice into the cavity, and there you have it, all nice and clean, without any bitter from the white inside pulp or lining of the fruit. By the way, it has been suggested that this

bitter principle of grapefruit not only *tastes* like quinine but *acts* like quinine in warding off and curing chills.

May the Lord be praised for this beautiful fruit that is both food and medicine; and may the time soon come when grapefruit juice, pure and unadulterated, will be as cheap as grape juice, which I firmly believe is just now (under the stimulus of the temperance wave) taking the place largely of beer and other intoxicants.

APPENDICITIS, OR SOMETHING ABOUT SURGERY
IN GENERAL.

A good lady at the close of a very kind letter writes as follows:

I do not think we can improve on God's plans. The medical men (many of them) say there is no use for the appendix in our day. I've yet to see the first one who regained health so as to do the work he might do if he had not undergone the operation. Their nerves are wrecked by the shock and the drugs they are required to take. These temples of ours are to be temples of the Holy Ghost.—I. COR. 3:7.

Many thanks, my good friend, for your very kind letter. Just a word about appendicitis. Our son Huber, while in school, had sudden attacks on and off for two or three years. They kept getting worse and worse, until the doctors said that, if he lived through the last one, as soon as he was strong enough he must have an operation. It was successful, and for ten years he has been well and exceedingly robust. Right *here* is the important point: He has never (since the appendix was removed) had a *single twinge* of his old trouble that kept coming at intervals for years.—A. I. R.

A KIND WORD FOR A. I. ROOT AND ALSO FOR THE
DASHEN.

After the 15th and 30th of the month I am always on the lookout for GLEANINGS. While I am not at present in the beekeeping line I like to read of the other fellow's efforts. I hope to be keeping a few colonies next year in British Columbia, where the climate is milder, and to which Province I am going this fall.

I like to read A. I. Root's Home page, and I trust he will live to keep up the good work many years yet. What he claims for the dashen is all right, as I have grown and eaten them in the West Indies.

Calgary, Can., March 31. E. F. GRESHAM.

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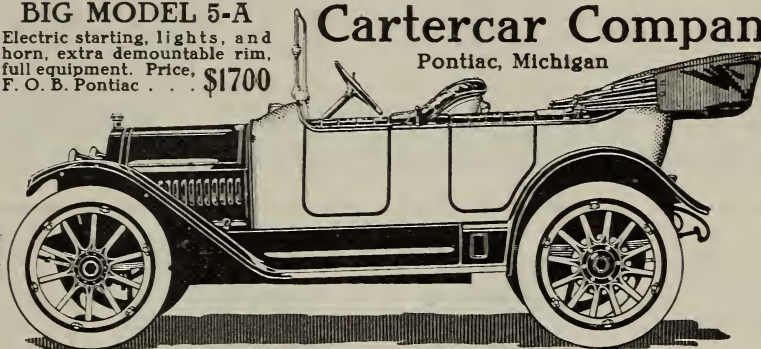
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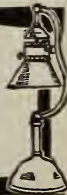
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QUEENS	May 1st to June 1st			June 1st to July 1st			July 1st to Nov. 1st		
	1	6	12	1	6	12	1	6	12
Untested	\$ 1.25	\$ 6.50	\$11.50	\$ 1.00	\$ 5.00	\$ 9.00	\$.75	\$ 4.00	\$ 7.50
Select Untested	1.50	7.50	13.50	1.25	6.50	12.00	1.00	5.00	9.00
Tested	2.00	10.50	18.50	1.75	9.00	17.00	1.50	8.00	15.00
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Breeders, \$5.00 to \$10.00.

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Twenty-six years of careful breeding places Laws' queens above the usual standard.

My bees, in my own and in the hands of others, have taken first premiums at the leading fairs all over the United States; and, in the hands of single individuals, have gathered over a car of honey in one season.

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No need to write for lower prices.

Reference, The American Exchange Bank of this city.

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2-comb nuclei. . . .	2.50	14.00	25.00	2.25	12.00	22.00
3-comb nuclei. . . .	3.50	20.00	35.00	3.25	18.00	32.00
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THE CHAS. E. HOPPER CO., 185 Wright Ave., Toronto, Ontario.

FOR SALE.—Smokers and feeders slightly damaged by flood, at one-half catalog price. Bargains. Mention what you want and enclose remittance. We reserve right to substitute.
E. W. PEIRCE, Zanesville, Ohio.

"Root" bee supplies, "American" honey-cans, and "Wad Process" foundation exchanged for beeswax and honey. Cash prices on request.
SUPERIOR HONEY CO., Ogden, Utah.
(Branch at Idaho Falls, Idaho.)

I thank the beekeepers for the interest shown in my double-section super described in March 15 GLEANINGS. I received an interesting letter from Hawaii. Will give all a chance to try it at small cost. Will send the 10-frame size, all set up, by parcel post, postage paid up to and including the 4th zone, for \$1.10; longer distances, add extra postage. You will try it eventually if you are an up-to-date beekeeper.
ELMER GRESSMAN, Hamburg, N. Y.

Why use cans? Kegs are cheaper and easier to fill and handle; 160-lb. size with 2-inch hole and plug, 50 cts. each f. o. b. factory.
N. L. STEVENS, Venice Center, N. Y.

WANTS AND EXCHANGES

FOR SALE.—5 H. P. Pierce motorcycle, or will exchange for bees.
R. V. LANGDON, Baraboo, Wis.

WANTED.—Back numbers of GLEANINGS. State how many you have, for what years, and price.
R. A. NUSBAUM, Duncan Falls, Ohio.

WANTED.—Best offer on thirty 12-section safety cases of No. 1 to fancy clover-heartsease honey placed in our hands for disposal. Color light as average clover.
E. W. PEIRCE, Zanesville, Ohio.

WANTED.—Camera, bicycle, collie dog, old bee journals, or cash in exchange for my choice Italian queens. Twenty years' selection for honey-gathering qualities. None better for practical results. Write for circular.
R. A. NUSBAUM, Duncan Falls, Ohio.

WANTED.—To furnish every beekeeper within 500 miles of Boise, Idaho, with the best and cheapest bee supplies on the market, *quality considered*. Send me your order or a list of your requirements for 1914. Our catalog and price list will be mailed to you free. Order early and get the discounts.
C. E. SHRIVER, Boise, Idaho.

REAL ESTATE

Virginia orchards pay handsome profits. Good fruit lands in the famous apple belt \$15 an acre up. Easy payments. Send names of two friends interested in Virginia and receive our beautiful magazine one year free.
F. H. LABAUME, Agr'l Agt. Norfolk & Western Ry., Room 246, N. & W. Bldg., Roanoke, Va.

BEEES AND QUEENS

Phelps' Golden Italian Queens will please you.
C. W. PHELPS & SON, 3 Wilcox St., Binghamton, N. Y.

FOR SALE.—Italian bees, \$8.00 per colony.
W. C. DAVENPORT, 2201 Pioneer Road, Evanston, Ill.

Pure Italian bees or their hybrids in L. 10 frames, wired, full foundation, 1 or 100.
JOS. WALRATH, Antioch, Cal.

Connecticut queens, 3-banded Italians only; large and vigorous; ready May 15. Price list.
W. K. ROCKWELL, Bloomfield, Ct.

Phelps' Golden Italian Bees are hustlers.
C. W. PHELPS & SON, 3 Wilcox St., Binghamton, N. Y.

Try my bright queens. Select untested, \$1.00; \$9.00 per 12. Safe arrival and satisfaction guaranteed.
M. BATES, Rt. 4, Greenville, Ala.

Leather-colored Italian queens June 15. Circular free. No foul brood. One, 85 cts.; 6, \$4.50; dozen, \$8.00.
D. G. LITTLE, Hartley, Iowa.

Three-band Italian queens. Tested, \$1.00; untested, 75 cts. Ready May 15.
S. CLICK, Mt. Jackson, Va.

FOR SALE.—150 colonies tested Italian bees; honey-house, tent-house, and complete extracting equipment.
H. E. DIKE, Calabasas, Cal.

QUEENS OF QUALITY.—Three-band, leather color, select untested, 75 cts. each; \$8.00 per dozen. Satisfaction guaranteed. Circular free.
J. I. BANKS, Liberty, Tenn.

FOR SALE.—Fine Italian queens. See my large ad. in this issue.

J. F. ARCHDEKIN, Rt. 7, St. Joseph, Mo.

Golden yellow Italian queens my specialty. Untested, \$1.00; tested, \$1.50. Ready April 1. Safe arrival guaranteed. E. A. SIMMONS, Greenville, Ala.

Golden Italian queens, tested, \$1.00; select tested, \$1.25; untested, 70 cts.; dozen, \$8.00; untested, after July 1, 60 cts.; dozen, \$7.00.

D. T. GASTER, Rt. 2, Randleman, N. C.

Untested queens, 75 cts. each; dozen, \$7.50; nuclei, \$1.25 per frame. Young bees by the pound, \$1.50; ½ lb., \$1.00. Full colonies, 8-frame, \$6.50; 10-frame, \$7.50. D. D. STOVER, Mayhew, Miss.

FOR SALE.—Golden Italian queens that produce golden bees; for gentleness and honey-gathering they are equal to any. Every queen guaranteed. Price \$1.00; 6 for \$5.00. WM. S. BARNETT, Barnett's, Va.

Bees and queens; three-band Italians; 1 lb. bees with queen, \$2.00; ½ lb. with queen, \$1.50. Untested queens, one, 75 cts.; 6, \$4.25; 12, \$8.00. Safe arrival. W. J. FOREHAND, Ft. Deposit, Ala.

Phelps' Golden Italian Queens combine the qualities you want. They are great honey-gatherers, beautiful and gentle. Mated, \$1.00; six, \$5.00; tested, \$3.00; breeders, \$5.00 and \$10.00. C. W. PHELPS & SON, 3 Wilcox St., Binghamton, N. Y.

FOR SALE.—Italian bees, 1 lb. with queen, \$2.25; 1 frame with queen, \$2.00. Queens, 75 cts. each. Safe delivery guaranteed; 30-page catalog with beginner's outfit, for stamp. THE DEROY TAYLOR CO., Newark, N. Y. (formerly Lyons).

Queens and bees for sale.—See our large advertisement elsewhere in this journal, and read The A. I. Root Co. letter to us regarding our queens. Write at once for large bee and queen circular.

THE PENN CO., Penn, Miss.

California Italian queens, three-banded and Golden; also bees by the pound for June and later delivery. Booked full till June 1. Circular and price list free. Write J. E. WING,

155 Schiele Ave., San Jose, Cal

Golden Italian queens that produce golden bees, the brightest kind, gentle, and as good honey-gatherers as can be found. Each, \$1.00; six, \$5.00; tested, \$2.00; breeders, \$5.00 to \$10.00.

J. B. BROCKWELL, Barnett's, Va.

Golden and three-banded Italians—ready March 1. They have been bred for three points—prolificness, gentleness, and honey-gathering qualities. Select untested, each, 75 cts.; six, \$4.25; 12, \$8.25; 50, \$32.50; 100, \$60.00. Tested, \$1.50; select tested, \$2.00; three-banded breeders, \$4.00; golden breeders, \$5.00.

GARDEN CITY APIARY CO.,
Rt. 3, Box 86, San Jose, Cal.

Famous North Carolina bred Italian queens for sale—(red-clover three-banders); honey-gatherers, good as the best. Strictly reared from Geo. B. Howe's best breeders, mated with Root's, Moore's, Davis' select drones; bees that get the honey; free of disease. Untested, 1, 75 cts.; dozen, \$7.50. Select untested, 1, \$1.00; dozen, \$9.00. Tested, 1, \$1.25. Select tested, \$1.50. Extra select tested, \$2.00. Breeders, \$3.00 to \$5.00.

H. B. MURRAY, Liberty, N. C.

BEES AND QUEENS.—Queens bred from Doolittle's best stock, untested, 60 cts. each; \$6.60 per dozen; \$50 per 100. Same stock of year-old queens removed from our colonies to prevent swarming, 50 cts. each; \$5.40 per dozen; \$40 per 100. Delivery guaranteed. Nuclei, two-frame, \$1.50; three-frame, \$2.00. Add price of above queens wanted. We have a rare bargain of apiary of several hundred colonies of bees for sale on easy terms. Particulars on request. SPENCER APIARIES, Nordhoff, Cal.

Queens by return mail, or your money back. See larger ad. Write for free booklet, "How to Transfer, Get Honey, and Increase."

J. M. GINGERICH, Arthur, Ill.

If you need queens by return mail we can fill your order. Three-band Italians only. Tested, \$1.00 each; untested, 75 cts.; \$8.00 per dozen. All queens guaranteed to be good, or money refunded. J. W. K. SHAW & Co, Loreauville, Iberia Parish, La.

Golden Untested Italian Queens, \$1.00; six for \$5.00. These bees are gentle, prolific, energetic, and pretty. Under date of May 2 an old customer—Chas. Stewart, Johnstown, N. Y., State Bee Inspector—writes, "Received in fine condition 10 queens." Ready to mail. J. B. CASE, Port Orange, Fla.

Golden and three-band Italian and Carniolan queens ready to ship after April 1. Tested, \$1.00; 3 to 6, 95 cts. each; 6 to 12 or more, 90 cts. each. Untested, 75 cts. each; 3 to 6, 70 cts.; 6 or more, 65 cts. each. Bees, per lb., \$1.50; nuclei, per frame, \$1.50. C. B. BANKSTON, Buffalo, Leon Co., Tex.

Dunn's Golden Italian queens, bred strictly for business, that produce a strong race of honey-gatherers. March 1 to Oct. 15: One, mated, 75 cts.; 6, \$4.25; 12, \$8.25; 50, \$32.50; 100, \$60.00. Tested, \$3.00; breeders, \$10.00. L. J. DUNN, Queen-breeder, Box 337G, Rt. 6, San Jose, Cal.

Try Forehand's three-band Italian queens. They are raised from imported stock, unexcelled for honey and gentleness. One untested, 75 cts.; 6, \$4.25; 12, \$8.00. Send me your order; and if not satisfied I will return money. Safe arrival.

N. FOREHAND, Rt. 2, Brewton, Ala.

Italian untested queens by return mail, or soon. We keep increasing our output, and hope to keep up with orders. Our queens we guarantee will satisfy you; no disease. One for 75 cts.; 6 for \$4.25; 12 for \$8.00; 100 for \$60. Tested queen, \$1.25. If you are particular about your queens, we wish to supply you. W. D. ACHORD, Fitzpatrick, Ala.

FOR SALE.—Three-banded Italian queens, from the best honey-gathering strains, that are hardy and gentle. Untested queens, 75 cts.; 6, \$4.25; 12, \$8.00; tested queens, \$1.25; 6, \$7.00; 12, \$12.00. Selected queens, add 25 cts. each to above prices. Breeding queens, \$3.00 to \$5.00 each. For queens in large quantities, write for prices and circulars.

ROBERT B. SPICER, Wharton, N. J.

FOR SALE.—Italian queens, the three-banded leather-colored hustlers. Queens are bred from a few select colonies, the record-breakers of over 700. Tested, \$1.25; 6, \$7.25; select, \$1.50; 6, \$8.75; untested, 75 cts.; 6, \$4.25; 12, \$8.25; select, 90 cts.; 6, \$5.00; 12, \$9.00. Breeders, \$3.00 to \$5.00 each. Queens are ready to mail now. Satisfaction and safe arrival guaranteed. No disease.

BROWN & BERRY, Hayneville, Ala.

Three-banded red-clover queens. Tested, \$1.50; select tested, \$2.00. One-frame nuclei, \$1.50; two-frame, \$2.50; three-frame, \$3.25, either for dovetailed or Danz. hives. Full colonies, all strong and healthy, in ten-frame dovetailed or Danz. hives, \$9. In Root's Buckeye double-walled hives, \$11.50. All frames wired, and firstclass. Add price of above queens wanted. Safe delivery and satisfaction in U. S. guaranteed.

J. W. LEIB,

563 S. Ohio Ave., Columbus, Ohio.

Guaranteed purely mated 3-band Italian queens, J. E. Hand strain, bred for gentle, prolific, honey-gathering, wintering, and long life. State Inspector's certificate. Queens by return mail, or your money back. Before July 1, select untested, one, \$1; 6, \$5; tested, one, \$1.25; 6, \$7; select tested, one, \$1.75; 6, \$9. Breeders, \$5. After July 1, select untested, one, 75 cts.; 6, \$4; 12, \$7; tested, one, \$1; 6, \$5; 12, \$9. Select tested, one, \$1.25; 6, \$7; 12, \$13. Breeders, \$4; 10 per cent discount on 30 days' advance orders. Safe delivery guaranteed in United States and Canada. Reference, First National Bank. J. M. GINGERICH, Arthur, Ill.

POULTRY

FOR SALE.—Thoroughbred Buttercup eggs, \$1.50 for 15. MRS. D. POTTER, Rt. 4, Ashtabula, Ohio.

FOR SALE.—Sicilian Buttercup eggs for hatching, \$1.50 per 15 eggs.

L. S. GRIGGS, 711 Avon St., Flint, Mich.

Sicilian Buttercups. One utility flock. Eggs, \$1.00 per 15; unsatisfactory hatches replaced at half price. WALTER M. ADEMA, Berlin, Mich.

EGGS.—20 for \$1.00; leading varieties prize poultry, pigeons, hares, etc. Booklet free. Large illustrated catalog, 10 cts. F. G. WILE, Telford, Pa.

S. C. White Minorcas, \$3.00 per 15; R. C. Buff Leghorns, S. C. Brown Leghorns, and Partridge Wyandottes, \$1.00 per 15.

HILLCREST FARM, Winchester, Ind.

FOR SALE.—Eggs, 15 for \$2; cockerels, \$3; "blue-ribbon stock." Columbian Wyandottes and Light Brahmas. Twenty years a breeder.

AARON J. FELTHOUSE, Elkhart, Ind.

INDIAN RUNNER DUCKS

FOR SALE.—White and Fawn Indian Runner ducks. One year old and better, 85 cts. each; \$9.00 per dozen. JOSEPHUS BIRD, Rt. 3, Duquoin, Ill.

Runner and Pekin Ducklings and hatching eggs. White-egg strain. Blue-ribbon stock. Also drakes. Catalog for stamp.

THE DERBY TAYLOR CO., Newark, N. Y.

Eggs from a heavy-laying strain of White Indian Runner ducks, \$2 per 13, \$10 per 100. In the hottest competition the past winter I took every blue ribbon wherever shown. I guarantee a pure-white-egg strain. WM. DROMMS, Rt. 2, Schenectady, N. Y.

HELP WANTED

WANTED.—Reliable man of good habits to work with bees the coming season. State age, experience, and wages first letter.

THE ROCKY MOUNTAIN BEE CO., Forsyth, Mont.

WANTED.—Man (married preferred) experienced in queen-raising; employment by the year on a salary and percentage.

OGDEN BEE AND HONEY CO., Ogden, Utah.

BEEKEEPERS' DIRECTORY

If you need queens by return mail send to J. W. K. SHAW & Co., Loreauville, Iberia Parish, La.

Nutmeg Italian queens, leather color, after June 1, \$1.00 by return mail. A. W. YATES, Hartford, Ct.

Well-bred bees and queens. Hives and supplies. J. H. M. COOK, 70 Cortlandt St., New York.

QUEENS.—Improved red-clover Italians bred for business June 1 to Nov. 15, untested queens, 75c each; dozen, \$8.00; select, \$1.00 each; dozen, \$10; tested queens, \$1.25 each; dozen, \$12.00. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Boyd, Ky.

PUBLICATIONS ON BEE CULTURE

(Please use coupon below, checking the numbers of items wanted)

The pamphlets and booklets listed below are of more than ordinary interest.

- 1 MY FIRST SEASON'S EXPERIENCE WITH THE HONEYBEE. By the "Spectator," of the *Outlook*, of New York. A ten-page leaflet detailing the experiences of this well-known writer. You will read the leaflet through before you lay it down. Free.
- 2 THE BEEKEEPER AND FRUIT-GROWER. A 15-page booklet giving actual facts regarding the value of bees to fruit, and showing how beekeeping may be doubly profitable to the fruit-grower. Fruit-growers are realizing as never before the necessity of having honeybees in close proximity to their blossoming fruit. Free.
- 4 CATALOG OF BEEKEEPERS' SUPPLIES. Our complete catalog will be mailed free to any address on request.
- 7 SPRING MANAGEMENT OF BEES. A 14-page booklet detailing the experiences of some successful beekeepers, and giving instructions on this oft-times perplexing matter. Price 10 cts.
- 8 HABITS OF THE HONEYBEE. By Dr. E. F. Phillips. A somewhat scientific handling of the habits and anatomy of the bee. Price 10 cents.
- 9 HOW TO KEEP BEES. A book of 228 pages detailing in a most interesting manner the experiences of a beginner in such a way as to help other beginners. Price \$1.00 postpaid.
- 10 THE A B C OF BEE CULTURE. A complete encyclopedia of bees, of 712 pages, fully illustrated, \$2.00 postpaid; half leather, \$2.75.
- 11 GLEANINGS IN BEE CULTURE. A 64-page illustrated semi-monthly magazine—the leading exponent of bee culture in this country. Ten cents per issue, but to new subscribers we will furnish it six months for 25 cents.
- 12 BACK-YARD BEEKEEPING. Six interesting lessons written in readable newspaper style. Many facts encouraging the "city bound" man or woman with the back-to-the-land longing. Free.
- 13 THE BUCKEYE BEEHIVE, or the management of bees in double-walled hives. Of special interest to the amateur beekeeper. The most complete booklet we publish for free distribution. Illustrated throughout; 84 pages.
- 14 ADVANCED BEE CULTURE. A beautifully printed book. Best plate paper has been used throughout its 200 pages, with the result that its many fine illustrations are unusually clear in every detail. Bound in attractive and substantial cloth; \$1.00 per copy, postpaid.

The coupon below may be used as an order sheet by properly checking the numbers of items wanted, and adding your signature, and remittance if required.

CUT COUPON HERE

The A. I. Root Co., Medina, Ohio.
Please send me the items checked. I enclose

\$.....to cover the cost.

1	2	4	7	8	9	10	11	12	13	14
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Name

Street Address or R. F. D.

Town.....

B. C. State.....

SPECIAL NOTICES

BY OUR BUSINESS MANAGER

BUCKWHEAT SEED.

The season for sowing buckwheat is here, and the supply of seed is rather scarce and high. We have both Japanese and silverhull in limited quantity which we will sell while it lasts at \$3.00 per 100 lbs.; 25 lbs., 85 cts.; 12 lbs., 45 cts.; bags included.

SWEET-CLOVER SEED.

Since the last issue went to press we have secured some imported hulled white-sweet-clover seed so that we can offer it at the price last named—\$24.00 per 100 lbs.; \$6.25 for 25 lbs.; \$2.60 for 10 lbs. We have a good supply of unhulled, both white and yellow, at \$17.00 per 100 lbs.; \$4.50 for 25 lbs.; \$1.90 for 10 lbs. If in need of seed let us hear from you.

PHILADELPHIA BRANCH.

On account of the increasing business at Philadelphia, with the convenient facilities of steamship and rail in all directions, we have taken the first floors of No. 8-10 Vine St., and are making improvements, building an office and salesroom and shipping-room on the first floor, thus enabling our customers in the future to transact their business without going up even one flight of stairs. We know this will be welcome news to our Philadelphia friends, who for so many years have had to travel to the third floor.

A brief outline of the Philadelphia branch may interest our readers. A little over twenty-one years ago, Mr. Wm. A. Selsor, who had bought our supplies direct for several years, stopped at Medina on his way north from Florida, and arranged to handle our goods on an agency basis, so that he might have our supplies to use on immediate call.

He rented one corner of the fourth floor of 8 Vine St. One or two attempts had been made to sell supplies before this by others, selling their own or a patent hive, and he was told it would never pay at Philadelphia, as there was not enough call for them, notwithstanding Philadelphia alone had one of the strongest local beekeepers' associations then existing.

Soon, however, the whole floor was taken, then the adjoining floor of 10 Vine St., and a year or so following the third floors of 8-10 Vine St. were secured; and on account of our desire to make our Philadelphia branch a distributing-point to our other agencies, some ten years ago we put the business on a branch basis, removing the book-keeping to Medina, etc., until to-day, when the improvements are finished, we will occupy the basement, with the four floors above, of the large warehouses of both 8-10 Vine St., and will invite both our old and new friends to call and inspect our new dress and improved facilities for attending to all their wants promptly.

SPECIAL NOTICES

A. I. Root

THE SALOON FIGHT AT BERNE, IND.

The book with the above title, mentioned elsewhere in this issue, can be furnished from this office, and we have made arrangements to give it with GLEANINGS for one year for only \$1.25. The dissemination of this book among the people will not only have great influence in the temperance cause, but will be a tremendous argument in favor of non-resistance, or "returning good for evil."

HOW TO MAKE A GOOD BOY OUT OF A BAD BOY OR A GOOD GIRL OUT OF A BAD GIRL.

A magazine called *Nature Study Review*, published by the Comstock Publishing Co., Ithaca, N. Y., contains in the May number a story entitled "The Reformation of Mary Hogan" that is well worth the price of the magazine for a whole year. Yes, it is worth ever so many dollars, not only because of what it teaches, but because it suggests the great reform that is coming, and coming speedily, too, in the way

of educating our boys and girls. Judge Ben Linsley, of whom you have doubtless all heard, has astonished the world by showing us how bad boys can be made good boys. And he has astonished the world, too, by letting us know the fault is not so much with the boys, or the girls either, for that matter, as with their environment. Judge Linsley tells us to arrest the *saloonkeeper* and put him in jail instead of punishing the boy because he took the proffered drink. By the way, I think I have just noticed in the papers that the brewers and distillers have made a desperate attempt to get Judge Linsley out of the way, as he hinders their traffic. May God be praised, however, that they have not succeeded. Now, I hope you will get this magazine in question, and read the story of Mary Hogan.

THE MANAGEMENT AND BREEDING OF HORSES.

The above is the title of a book just published by the O. Judd Co., of New York. Since the automobile has taken the place of horses to such an extent almost everywhere, some might think a book on horses would not be particularly needed; but there will probably be abundant use for good horses for ages to come. This is a book of about 500 pages, price \$2.00. It describes fully everything in the line of horses, from the biggest heavy draft roadster down to the Shetland ponies which are just now such pets for the children. One grand thing about this book and many similar ones is that they are helping the people to break away from the superstitious nonsense in regard to doctoring horses, and adopting common sense and up-to-date scientific methods. I can remember the time when an ignorant horse-doctor went to a drugstore and got the most powerful acids, and poured them down the horse's throat when the medicine (?) (only slightly diluted with water), burned out his insides, and killed the poor beast. He then announced to the owner that his horse "was so far gone that even 'aqua fortis' could not save him." Our experiment stations have done a lot toward doing away with such cruelty to the poor horse at the hands of somebody who calls himself a horse-doctor. This horse-book is chockful of pictures of every thing in the horse or mule line. If you wish to be posted and up to date, send to the O. Judd Co., for "The Management and Breeding of Horses." If desired, we can fill orders from this office.

THE AMERICAN PEACH ORCHARD.

The above is the title of a new book on growing peaches, just put out by the O. Judd Co., and written by Prof. F. A. Waugh; and, if I am correctly posted, there is no better authority on the peach and kindred subjects than Prof. Waugh, whose name has been for years a household word. I will tell you why I am just now once more enthusiastic about peaches. At this time of the year apples are scarce, poor, and expensive, and just a few days ago it occurred to me that I might supplement my apple supper with evaporated peaches. A year ago such peaches were to be had at 10 cts. per lb. at our grocery; but now they are 14. But even at that price they are not expensive. Just throw a double handful of them into pure cold water and let them stand 24 hours and you will have the most agreeable food and drink one can think of. I wonder why we do not have "peach juice," put up in bottles, and sold at a low price. Since beer has gone out of fashion (or is going out), why in the world should we not give a little more attention to fruit-juice substitutes? After taking a good drink of the juice soaked from peaches I can say, as I said a year ago, "May the Lord be praised for these invigorating and luscious drinks that nourish the body and encourage temperance and increase our happiness." If fruit juices do not help us to say, "Praise God, from whom all blessings flow," they certainly ought to. Well, this book has 236 pages besides the index, and is full of pictures from beginning to end. It is such a large nice book I thought the price would probably be \$1.50; but it is only an even dollar. Address the O. Judd Co., New York, or it can be furnished from this office if more convenient. Just a word more:

People often say that *there's* no peach locality; but I think I may safely say that peaches may be grown almost anywhere in the United States. They have just found out they can grow beautiful peaches at comparatively small expense away down in Florida. They begin to ripen there in May, and by choosing different varieties one can have luscious

fruits all summer in his own dooryard. A few years ago a friend of mine who has a clay-soil farm not favorable for peaches visited a relative whose business is peach-growing on the shores of Lake Erie. He took careful watch to see how that relative managed, went home, and tried the same system of management on his clay farm. To the surprise of everybody, he very soon had a great crop of peaches for all the neighborhood and community; and the worst trouble I know of with his peach growing was the difficulty of fencing off the tramps that kept getting in to his nice fruit near the railroad. I have repeatedly grown as fine peaches here in Medina as I ever saw or tasted anywhere. But the trees were short-lived, with my method of management, or perhaps no management after they got to bearing. I presume this book will tell us how to keep the trees as they are kept in more favored localities. Near my cottage in the woods in northern Michigan I had peaches from trees 25 years old.

CHOICE PLANTS—HOW TO PREVENT THEM FROM DYING, ETC.

On page 440 I spoke of a cold-frame for choice plants until they have made a good start. If you have only a few plants and do not wish to go to the trouble of constructing a cold-frame, a common fruit-jar inverted over the plants will oftentimes be the means of saving them. I mean plants that have come through the mails or by express, and which are inclined to wilt down when exposed to the open air. If the plant is small, simply inverting a tumbler over it may answer. Then this tumbler or fruit-jar will need to be shaded from the fierce rays of the sun during the middle of the day. When plants are moved from the greenhouse or hot-bed out into the open air, they are very likely to have a setback, even if they do not die entirely; and this applies especially to rooted cuttings. In making a cutting we remove the leaves, or the greater part of them. Leaving on all the leaves will be the death of the plant. Cut off all but a few of the youngest leaves just started; and if the leaves are large, clip off a half or more of each leaf. The women who understand making "slips" from geraniums and similar house-plants understand this. Now, when your plant is placed in good soil give it a moderate wetting—not too much; then confine the moist air by means of your tumbler or fruit-jar. The plant needs the light; but the leaves cannot stand a dry atmosphere, on account of its disturbance and the mutilation of its roots. A glass receptacle gives light and holds the moist air until the plant can recover. The covering may be removed during the night, and put back again the next day when the sun is well up. After you get the knack of making things grow in spite of transplanting, going through the mails, etc., it is an easy matter to succeed.

Convention Notices

A summer meeting of the New Jersey Beekeepers' Association, July 8, will be held at the apiary of Robert Spicer, Wharton, Morris Co., N. J., reached by D. L. & W. R. R., and C. of N. J. An interesting program is being prepared.

New Egypt, N. J., May 19. E. G. CARR, Sec.

IOWA SUMMER MEETINGS

The Iowa Beekeepers' Association has arranged for a series of summer meetings, the first of which was held on May 19 and the last will be held Aug. 20. Most of these meetings will be in the nature of picnics. Everybody will bring a basket of lunch, the wife and babies, and enjoy the day.

At Colo. June 10, the Ladies' Aid Society will serve dinner at a reasonable price, and the field meet will be held at the Hall home apiary, which is within easy reach of the station. Mr. Hall's big honey-house will be used for a convention hall in case of rain. Professor C. E. Bartholomew, of Ames, will give the principal address. So much interest has been manifested in the Hall methods of honey production that a good attendance is assured.

At Forest City, June 17, the meeting will be held on the grounds of Hon. Eugene Secor, former president of the National, and one of the best-known beekeepers of the middle West, who has kept bees continuously in his present location for forty years. It

is hoped that a liberal representation of Minnesota beekeepers will be present here, as it is but a few miles from the State line.

At Des Moines, July 15, a big day is planned at the Dustman apiary, which is convenient to the car line. The committee is planning a series of interesting demonstrations. The central location and splendid railroad facilities from all directions make Des Moines very easy of access.

At Mt. Pleasant, July 28, is to be held the fifth field meet of the season. The committee is already making plans for the program with C. P. Dadant, of Illinois, as one of the speakers. Beekeepers from Western Illinois and Northeast Missouri will find Mt. Pleasant easy to reach, and should plan to come.

On August 12, at Clarinda, the friends from Nebraska and Missouri will find a point easy of access, and the Strong apiary will be the place of meeting. Mr. Strong, the well-known queen-breeder, has been keeping bees for almost half a century, and will demonstrate his methods of queen-rearing. The program will be announced later.

For several years the beekeepers in the vicinity of Sioux City have held a tri-state meeting, the date of which this year is set for Aug. 20. Friends from South Dakota and Nebraska meet with Iowa beekeepers for an annual picnic at Riverside, and the committee in charge always plan an interesting time.

The meeting at Delmar, Ia., will be held July 7 at the Coverdale farm. Mr. Coverdale has become famous as a grower of sweet clover, and is considered by many of the agricultural papers as authority on the subject. He will have experimental plots showing what sweet clover will do when handled scientifically. Mr. Coverdale will deliver an address, explaining what sweet clover will do for the farmer and stock-raiser. Any one contemplating sowing sweet clover can well afford to make a trip across the State to hear Mr. Coverdale and see his experimental plots as well as his large acreage.

Mr. C. P. Dadant, of Hamilton, Ill., is too well known to need an introduction. He will deliver an address that will be of much interest. Mr. Dadant has been left to choose his own subject. Being a very keen, well-educated man, you may rest assured he will have something to say. Every beekeeper of any consequence has heard of "Dadant." It is a household word. Who hasn't heard of "Dadant's foundation"? Every beekeeper who is within reasonable distance should not fail to hear Mr. Dadant. It will be time well spent.

Mr. Frank C. Pellett, Iowa's State Bee Inspector, will also speak on foul-brood conditions in Iowa, foul-brood laws, etc. Mr. Pellett is also president of our State association, and a live wire. He is also a lecturer of some note. Mr. Pellett isn't very large, but you will know he is at the meeting all right. Don't forget the basket dinner. Other subjects will be discussed informally, but the three addresses will be well worth your time and money to attend. Let everybody come, whether a beekeeper or not, and let every beekeeper in the northeast quarter boost for the Delmar meeting.

W. S. PANBURN.

Center Junction, Ia., May 14.

A KIND WORD FROM PROHIBITION KANSAS.

Dear Mr. Root:—I don't want my subscription to stop, for it was through reading GLEANINGS that I have become interested in bees. I was first attracted by reading Our Homes. I would then scan an occasional article on bees, and soon became very much interested—so much so that I subscribed for GLEANINGS, and purchased a copy of the A B C, and, consequently, I am now the happy possessor of two colonies of bees, or, rather, one and a half.

Yes, Mr. Root, I am happy to say that all our Governor says about prohibition in Kansas is true. I have lived in a town of ten thousand inhabitants for fifteen years; am on the streets every day, and have in all that time seen but one intoxicated man.

We have a State normal school here with an annual enrollment of 2700 students, and the majority of these young people have grown to manhood and womanhood without ever having seen a saloon. As I am a native of your State, and love her with all her faults, I must say there is no comparison between living in a strictly prohibition State and one that legalizes the liquor-traffic. Our Kansas motto is, "The saloon has no excuse for existence."

Emporia, Kan., Nov. 6.

ETTA E. DICKEY.

Honey - Cans

We have made especial efforts this season to supply our patrons with cans and cases of the finest quality, and we have now in our warehouse a complete stock ready for immediate shipment to you.

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Weed's New Process Comb Foundation

We have made extensive improvements in our comb-foundation factory this season at a great expense, and are now operating day and night under the supervision of a man direct from The A. I. Root Company, who has had many years of experience in the manufacture of this product. When placing your order with us you are assured of receiving Comb Foundation of unexcelled quality.

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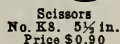


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